MEDICAL

AND

PHILOSOPHICAL

COMMENTARIES.

By a SOCIETY in EDINBURGH.

> Noſtrum eſt, dum artis medicae dignitatem tueri, dum turpitudinem, et infamiam, evitare volumus, animos exſuſcitare, intentiſque ingeniis ea omnia revolvere, quae ad artis vim atque perfectionem quovis modo conducere videantur.
>
> NICHOLLS.

VOLUME SECOND.

PART II.

LONDON:
Printed for J. MURRAY, No. 32. Fleet-ſtreet;
W. CREECH, Succeſſor to Mr KINCAID, and
W. DRUMMOND, *Edinburgh*; and T. EWING,
Capel-ſtreet, *Dublin*.

M,DCC,LXXIV.

MEDICAL

COMMENTARIES.

SECT. I.

An Account of Books.

I.

Mémoire qui a remportè le Prix des Arts, au jugement de l' Académie des Sciences, Belles-Lettres, et Arts de Beſançon, ſur cette queſtion, Indiquer les Vegetaux qui pourroient ſuppléer en temps de diſette à ceux que l'on employe communément a la nourriture des hommes, et quelle en devroit être la préparation? par M. Parmentier, *Apothicaire Major de l'Hôtel Royal des Invalides.* 12mo, Paris.

THE ſcarcity of proviſions which prevailed in the neighbourhood of Beſançon for three ſucceſſive years, gave occaſion to the above queſtion. In conſidering this ſubject, it appeared to our author to be a matter of more importance to inquire into the nature of thoſe vegetables which are eſteemed either to be not alimentary, or of a hurtful quality, than to point out thoſe, which, it is already known, may be ſubſtituted in the place of grain. In this inveſtigation, he endeavours, in the firſt part of the memoir now before us, to aſcertain the principles upon which the nutritive quality of vegetables depends. In the ſecond, he gives an account of the vegetables which he has found to contain alimentary matter; of the means by which they may be deprived of pernicious qualities; and of the beſt methods for preparing them, when they are to be uſed as food.

In the firſt part of this memoir, after ſome reflections on the inquiries of different authors concerning the nutritive part of vegetables, Mr Parmentier obſerves, that this quality is now demonſtrated to depend upon their mucilage differently modified. To Mr Beccari of the Bolognian academy, we are principally indebted for the determination of this point. That learned philoſopher has diſcovered, in the flower of wheat, two diſtinct ſubſtances. The one, he terms an animal or glutinous matter; he other, an amylaceous matter, or vegetable paſte. As theſe obſervations have ſince been confirmed by many learned chemiſts, no room was left to queſtion their being well founded. Mr Parmentier, however, entertained ſome doubt with regard to the opinion of thoſe who imagine that the animal matter of Beccari is the nutritive part of vegetables. Were this true, the ſame matter ſhould be found in other kinds of grain, which afford nearly as much nouriſhment as wheat. From this reflection, he was led to ſome experiments concerning this animal or glutinous matter.

Two pounds of the fineſt flower of wheat made into a paſte, and expoſed to a very gradual fall of water, yielded ſix ounces of an elaſtic ſubſtance, of a ſomewhat ſolid conſiſtence, of a yellowiſh colour, not adhering to moiſtened bodies, nor affecting the tranſparency of water. From the ſame quantity of a coarſer kind of flower, he procured, by the ſame means, nine ounces of this elaſtic glutinous matter. This he found not to hold in one inſtance only, but to be uniformly the reſult of many experiments made upon theſe two kinds of flower. From this he was led to conclude, with the celebrated Model of Peterſburgh, that the gluten of Beccari exiſts in the cortical part or bran of wheat. To aſcertain this fact, he made experiments with four different kinds of flower. From theſe experiments it appeared, that the quantity of animal matter was always proportioned to the coarſeneſs of the flower. Hence, were this gluten the nutritive part, the coarſeſt bread, or that which contained moſt bran, would afford the greateſt quantity of nouriſhment. The contrary of this, however, is known to be the fact.

In continuing his examination of the glutinous matter of vegetables, Mr Parmentier expoſed a pound of it, for ſome days, to a gentle heat. By this means it became dry and brittle, aſſumed the appearances of tranſparent horn, and loſt more than two thirds of its weight. By trituration with water, this dried matter reſumed its former glutinous and elaſtic appearance, its weight, and colour. Hence, Mr Parmentier concludes, that a pound of the beſt flower does not contain above an ounce of this gluten.

This gluten has been ſuppoſed to be the nutritive part of corn, from its not diſſolving unleſs in vegetable acids; from its aſſuming a ſpongy form in boiling water; from its ſuppoſed analogy to the animal lymph; and, laſtly, from the ſimilitude which the products it affords on chemical analyſis bear to thoſe obtained from animal matters. From what has been ſaid, however, our author concludes, that this animal matter is not the nutritive part of vegetables. He therefore proceeds to examine the other part of the flower, the amylaceous.

The amylaceous part of wheat, upon being mixed with the ſame quantity of leaven, which would have been ſufficient for as much flower, produced bread of a white colour, but very heavy, and without taſte. Upon the addition, however, of a little fermentable mucilage to this maſs, it roſe properly, and taſted well.

Having found this amylaceous matter in the grains and roots of graſſes and leguminous plants, he next endeavoured to diſcover whether it was to be found in thoſe roots which are ſuppoſed to be very nutritive; to aſcertain in what proportion it was preſent; and to determine whether it was preciſely of the ſame nature with the amylaceous part of grain. As the ſubject of theſe experiments he choſe potatoes.

From twenty pounds of potatoes he procured three pounds of a fine powder, which, in every particular, ſhewed the ſame properties as the amylaceous part of wheat. Upon this trial he diſcovered none of the glutinous or animal matter of Beccari.

This amylaceous part of vegetables, or, as ſome have termed it, the fecula, is a peculiar gum not ſoluble in ſpirit of wine, vinegar, or cold water. It contains more acid, and leſs water, than the ordinary gums. It is found in many of thoſe plants which make great part of the nouriſhment of man and other animals. Hence our author concludes it to be the nutritious matter.

But there are other vegetables uſed in diet, ſuch as the ſaccharine fruits, and ſome of the humid roots, in which he could neither diſcover a glutinous nor amylaceous matter. In theſe, he ſuppoſes, that the nutritive quality muſt ariſe from the ſugar. The juices of theſe vegetables, however, upon evaporation, yielded a ſubſtance reſembling the fecula, and giving nearly the ſame products upon a chemical analyſis; which give a preſumption, that the nouriſhment they afford may at bottom depend upon the ſame principle.

Having endeavoured to aſcertain the nutritive part of vegetables, the author next proceeds to conſider what vegetables, not commonly in uſe, may, in conſequence of poſſeſſing it, be employed in aliment. With this view, he propoſes particular parts of the following vegetables. Horſe cheſnuts, Acorns, the roots of Bryona aſpera ſive alba baccis rubris, Car. Bauch. Pin. Iris vulgaris germanica ſive ſylveſtris, C. B. P. Gladiolus major Byzantinus, C. B. P. Arum vulgare maculatum et non maculatum, C. B. P. Dracunculus polyphyllus, C. B. P. Ranunculus vernus rotundis foliis, C. B. P. Filipendula major, C. B. P. the ſeeds of the Lychnis ſegetum major, C. B. P. the roots of the Helleborus niger ranunculi folio, flore globoſo, C. B. P. Fumaria bulboſa radice non cava, C. B. P. Mandragora flore ſubcaeruleo purpuraſcente, C. B. P. and Gramen caninum arvenſe, C. B. P.

After this enumeration of plants which may be uſed in diet, Mr Parmentier next preſents us with ſome remarks concerning each. Although horſe-cheſnut has not hitherto been employed, yet it is certain, that wholeſome bread, without any bitterneſs, may be obtained from it. Of acorns, bread, he obſerves, has frequently been made; and, to this day, in ſome countries, they are in common uſe. The method of preparation which he recommends is, that they be deprived of their cover by boiling, then dried and powdered, and afterwards baked in the ſame manner as the flower of wheat.

The roots of the bryona, iris, gladiolus, colchicum, arum, et dracunculus, are chiefly recommended from their growing ſpontaneouſly and in great abundance. The two laſt contain the greateſt quantity of amylaceous matter.

The alimentary quality of the other plants before enumerated, ſtill remains to be aſcertained, except the gramen caninum arvenſe. This plant, in its appearance, approaches to corn; and ſome naturaliſts have conſidered it as the original ſpecies from which all our grain is produced. Its roots are ſweet taſted, and have long been employed for making ptiſans.

In the ſecond ſection of this part, which concludes the memoir now before us, the author, after ſome general remarks on the proper ſeaſon for gathering the roots and ſeeds above enumerated, proceeds to relate the experiments which he made for aſcertaining the beſt method of preparing them.

He adviſes, that the fruit of the horſe-cheſnut, after the ſkin is taken off, and the juice preſſed from it, be made into a paſte. This maſs muſt be diluted in water, and then ſtrained through a ſieve. A milky coloured liquor is thus ſeparated, which, on ſtanding, depoſites a fine powder. This being dried, is without either ſmell or taſte, and very fit for aliment; the maſs, from which it is procured, retaining the bitterneſs of the fruit.

Acorns, fully ripe, and made into a paſte, were deprived of their bitterneſs and aſtringency by merely preſſing their juice from them. The maſs remaining after the preſſure, when dried, was eaſily reduced to a fine powder, by no means diſagreeable.

The roots of the bryona, when treated in the ſame manner as the horſe-cheſnuts, yielded a ſimilar white powder. By the ſame treatment alſo, fine, white, inſipid, inodorous powder, may be procured from the roots of iris, gladiolus, ranunculus, fumaria, arum, dracunculus, mandragora, colchicum, filipendula, and hellebore.

In the preparation of the gramen caninum arvenſe, it is only neceſſary, that the roots ſhould be cleanſed, cut ſmall, dried, and pounded. This powder, the author obſerves, does not diſſolve in cold water or ſpirits; but it does in boiling water, which it renders thick and cloudy, and, upon cooling, the whole maſs obtains a gelatinous conſiſtence. Upon a chemical analyſis, it yields an acid empyreumatic oil, which poſſeſſes a ſingular odour, reſembling that which is perceived on burning the plant. The ſpongy reſiduum calcined in the air, gives a fixed alkali. Theſe properties inconteſtibly prove, that it contains an amylaceous matter ſimilar to that of grain, which, it has already been obſerved, appears to be the nutritive part of vegetables. This amylaceous matter, formed into a jelly, and diffuſed in water, keeps for a long time without ſuffering any change; it then turns acid, and at length putrifies.

The amylaceous matter of acrid and poiſonous plants, although innocent and nutritive, cannot be converted into bread without the addition of ſome mucilaginous ſubſtance. In times of great ſcarcity, common bran will anſwer this purpoſe: But, when potatoes can be had, the addition of a proper proportion of theſe is to be preferred.

Mr Parmentier next gives an account of the bread which he obtained from the amylaceous powders of the different vegetables mentioned above, with the addition of potatoes, and a ſmall quantity of common leaven of grain. This bread appeared in general to be well fermented; it was of a good white colour, and free from any diſagreeable odour; but to the taſte it was ſomewhat inſipid. This, however, he imagined might have been corrected by the addition of a proper quantity of ſalt.

As the reſources againſt ſcarcity which are here pointed out, can be procured only at particular ſeaſons, the author next propoſes a method for preſerving them. For this purpoſe, he adviſes, that bread prepared in the manner mentioned above, ſhould be carefully dried, reduced to powder, and then kept in a cloſe caſk. By this means, he is of opinion, that it may be preſerved for a very long time, and will always be ready to make an agreeable and wholeſome panada, by the addition of a little butter and ſalt.

Mr Parmentier next endeavoured to diſcover the degree of power with which this alimentary powder nouriſhed. Here he made himſelf the ſubject of experiment, and found that three ounces of it for dinner, and as much for ſupper, made into panada with water, was a ſufficient quantity of aliment for a day. From his diſcharge by ſtool while he uſed it, he had reaſon to conclude, that it is almoſt totally alimentary. He concludes with recommending it not only as uſeful in times of ſcarcity, but as a proper ſubſtitute for ſea-biſcuit, and as a ſpecies of food well adapted for armies and hoſpitals.

II.

Obſervations on different kinds of Air; by Joſeph Prieſtley, L. L. D. and F. R. S. *Vide Philoſophical Tranſactions, vol.* 62. 4to, London.

THE learned and induſtrious author of this paper, introduces his ſubject by obſerving, that he is fully ſenſible his obſervations are imperfect, his experiments incompleat. But, having aſcertained many facts equally new and important, he has here preſented the public with an account of the progreſs which he has already made. It will, we are perſuaded, be the ſincere wiſh of every philoſopher, that the hopes he entertains of being hereafter able to communicate farther lights on the ſame ſubject, may not be diſappointed.

He firſt treats of fixed air, by which he means that air expelled by heat from lime, and other calcareous ſubſtances, upon being deprived of which, they become quick-lime. It is alſo generated by fermenting liquors. So that the author's ſituation near a public brewery, put it in his power to make many experiments with regard to it.

Lighted candles or chips, immerſed in this air, as it lies upon the liquor, are extinguiſhed. The ſmoke of theſe ſubſtances unites with this air, or is retained by it, and aſſumes various appearances. Often the upper ſurfaces of the ſmoke floating in the air, will be ſmooth and well defined; while the under is ragged, parts hanging down within the body of the air to a conſiderable diſtance, in the form of balls, connected by ſlender threads to the upper ſtratum. At other times, the ſmoke will be formed into broad flakes reſembling clouds, parallel to the ſurface of the liquor, but at different diſtances from it.

If fixed air be very ſtrong, the ſmoke of gunpowder fired in it, will be wholly retained; and if by agitation any of it be thrown out of the veſſel containing it, the ſmoke mixed with it will fall to the ground, from its being heavier than the common air. It extinguiſhes the red part of burning wood, but does not ſeem to cool a red-hot poker ſooner than common air. It unites, altho' ſlowly, with common air. It unites with the ſmoke of reſin, ſulphur, and other electrical ſubſtances; yet an electrical atmoſphere cannot be made by holding the wire of a charged phial among theſe fumes.

By various contrivances, water may be impregnated with fixed air, from which it acquires a pleaſant acidulous taſte, ſparkles in a glaſs; and can hardly be diſtinguiſhed from good Pyrmont water. From this impregnation likewiſe, it readily diſſolves iron, as was firſt diſcovered by Mr Lane. Fixed air may likewiſe be readily incorporated with wine, beer, or almoſt any other liquor; and when they are flat or dead, they will, by this means, be revived.

Although cold promotes the abſorption of fixed air by water, yet ice did not abſorb it. By freezing, water diſcharges air plentifully, although in a cool temperature it retains it even in open veſſels. As Pyrmont water loſes its air *in vacuo*, Dr Prieſtly imagines, that by means of a condenſing machine, water may be highly impregnated with the virtues of the Pyrmont ſpring.

The lungs of a cat, ſuffocated in fixed air, were found collapſed and white, with little or no blood in them. Blood, however, was found to coagulate ſooner in fixed air than in common air.

This air kills inſects and animals which breathe very little. It is farther deſtructive to vegetable as well as animal life; and it deprives ſome flowers of their colours; although this does not univerſally hold.

Dr Prieſtly imagines, that the moſt pure fixed air is to be obtained from diluted oil of vitriol and chalk; and this air he in general uſed in the experiments above recited. He is of opinion, that fixed air requires only ſome addition to render it common air; and, from ſome circumſtanſtances, he was led to conclude, that the addition requiſite is phlogiſton; although he acknowledges, that he is ignorant of the method of combining them.

The author next treats of the air in which a candle or brimſtone has burned out. His experiments on this ſubject demonſtrate many curious facts. One of the moſt obvious circumſtances is the diminution which the air ſuffers from a candle or brimſton having burned out in it. This diminution he eſtimates at to one fifteenth or one ſixteenth of the whole. He did not, however, find, as Dr Hales ſuppoſed, that the diminution continued when brimſtone was burnt repeatedly in the ſame quantity of air.

Air diminiſhed in bulk by candles or brimſtone is ſpecifically lighter than common air; and, after the fumes have ſubſided, an animal lives in it as long as in common air. It does not, however, as the Count de Saluce maintained, recover all the properties of common air, either from expoſure to cold or compreſſion. But this end, the author has diſcovered, may be effected by vegetables growing in it.

The next ſubject of conſideration is inflammable air. This the author in general obtained in the manner deſcribed by Mr Cavendiſh in the Philoſophical Tranſactions. Inflammable air has always a ſtrong offenſive ſmell, which is of three kinds, according as it is procured from animal, vegetable, or mineral ſubſtances. This air, when made by a violent effervescence, is much more inflammable than when made by a weak one. It is not rendered leſs inflammable by animal or vegetable putrefaction, although common air, tainted ed with putrefaction, extinguiſhes flame. Plants grow in it without deſtroying its inflammability. It kills animals as ſuddenly as fixed air, and with the ſame phaenomena; nor is it rendered leſs noxious by animals dying in it. Neither bladders nor corks are capable of confining it.

As Dr Prieſtly was led, by ſome circumſtances, to imagine, that a mixture of fixed and inflammable air would make common air; he tried, therefore, ſeveral methods for producing ſuch a mixture. All of them, however, proved ineffectual. Yet fixed and inflammable air, after ſtanding together near three years, ſeemed in part to have affected each other.

Inflammable air is not altered from being expoſed to oil of vitriol or ſpirit of nitre, notwithſtanding the ſtrong attraction which theſe fluids have for phlogiſton. Mixed with the fumes of ſmoaking nitre, it goes off with an exploſion, like a mixture of half common half inflammable air.

When inflammable air was expoſed to water previouſly boiled, about three-fourths of it were abſorbed, and the remainder was but ſlightly inflammable. By long agitation with water, it entirely ceaſes to be inflammable, becomes compatible both with animal life and flame; and, in proceſs of time, acquires the power of extinguiſhing flame. It acquires the ſtate of common air, when about one half of it, or a little more, is abſorbed. Diſtilled water may be made to imbibe about one fourteenth of its bulk of inflammable air; but no alteration is thence produced in the taſte of the water.

We are next preſented with ſome obſervations reſpecting air infected with animal reſpiration or putrefaction. It is a fact, univerſally known, that, by the burning of candles, or by the breath of animals, air is rendered unfit for ſupporting either life or flame. Were there not, however, ſome proviſion in nature, by which air thus vitiated is reſtored to its former ſtate, the whole maſs of the atmoſphere would in time become unfit for animal life. The reality of ſuch a proviſion may farther be inferred, from conſidering, that air is at preſent as fit for animal reſpiration as it ever was. But what that proviſion is, no philoſopher has hitherto pretended to determine. How many cauſes may aſſiſt in the reſtoration of air to its former ſtate, after it has been acted upon by life or flame, is a queſtion which perhaps will never be determined: But Dr Prieſtly imagines that he has diſcovered two of theſe cauſes.

His reſearches on this ſubject were chiefly directed by conſidering thoſe circumſtances to which the atmoſphere is in fact expoſed. Many trials thus ſuggeſted to him proved unſucceſsful. He found, that air, injured by animal reſpiration, could not be reſtored to its former ſtate by ſtanding over freſh or ſalt water; by the action of light; by antiſeptic effluvia; by the fumes of ſulphur; by the effluvium of ſalt-petre; by heat; by rarefaction or condenſation; or by expoſure to freſh earth. He diſcovered, however, from a great variety of experiments, that this air can be reſtored to its former ſtate, either by vegetables growing in it, which they do in a moſt luxuriant manner, if they be not killed on its being firſt applied to them, or by long continued agitation with water. As putrid matter nouriſhes the roots of plants, as plants receive nouriſhment by their branches and leaves as well as by their roots, Dr Prieſtly imagines, that they abſorb from the air its noxious quality, and thus render it fit either for reſpiration or inflammation. He imagines alſo, that water, by agitation, is in a ſimilar manner capable of abſorbing this noxious matter. He concludes, therefore, that the growth of vegetables, and the agitation of the ſea and of lakes, are two of the great means employed by nature for reſtoring to its former ſtate that air which has been vitiated either by reſpiration or flame.

We are next preſented with ſome experiments on air, in which a mixture of brimſtone and filings of iron had ſtood. By this mixture, air is generally diminiſhed about one fifth or one fourth of the whole. In this ſtate, it is even lighter than common air, and is not affected by any future mixture. Lime water is not rendered turbid by expoſure to it, and inflammable air mixed with it, is diminiſhed in bulk, but ſtill retains its inflammability.

We are next preſented with ſome remarks concerning nitrous air. By this title, Dr Prieſtly diſtinguiſhes that air obtained from iron, copper, braſs, and ſome other metals, by the nitrous acid; and from gold, or regulus of antimony, by aqua regia. This air, mixed with common air, produces a remarkable diminution of it, attended with a turbid red, or deep orange-colour, and a conſiderable heat. In proportion as air is rendered leſs fit for reſpiration by the flame of a candle, or any other ſimilar cauſe, it is leſs affected ed by nitrous air. It affords, therefore, a teſt by which the purity of any other air may be determined.

Inflammable air, when mixed with it, burns with a green flame. It ſuffers a very conſiderable diminution from a mixture of iron-filings and brimſtone made into a paſte with water. When thus diminiſhed, it loſes its peculiar ſmell, and has no other than that of common air. Plants die very ſoon, both in nitrous air, and in common air ſaturated with it; but neither the one nor the other differ in ſpecific gravity from common air.

Nitrous air is in ſome degree miſcible with water, and imparts to it an acid and aſtringent taſte. Another ſingular property which it poſſeſſes is, that it both prevents putrefaction, and reſtores putrid ſubſtances to ſweetneſs. In conſequence of this property, Dr Prieſtly thinks it may be applied to uſe for the preſervation of birds, fiſhes, and anatomical preparations. By ſtanding long in water, it ſuffers a diminution of bulk; but it may be kept in a bladder better than moſt other kinds of air.

Air infected with the fumes of burning charcoal, is the next ſubject of conſideration. Air thus tainted is diminiſhed in bulk, and not only extinguiſhes flame, but is in the higheſt degree noxious to animals. It ſhews no efferveſcence with nitrous air; and, after a certain degree, it is incapable of any farther diminution by the filings of iron or brimſtone, the fumes of more charcoal, or any other cauſe.

Dr Prieſtly next conſiders the effects produced on air by calcination of metals, and the effluvia of paint made with white-lead and oil. He found, that, from the calcination of tin and lead, air was diminiſhed more than from any other cauſe he had before tried. After a certain degree, it is not farther diminiſhed by repeated calcinations. In this ſtate, it is highly noxious; but it is rendered innocent, and recovers, in a great meaſure, the properties of common air, by waſhing in water. The author ſuſpects, that it is diminiſhed from the calcination of metals, by being charged with phlogiſton, and again reſtored from the phlogiſton being abſorbed by the water. From this he ſuggeſts it as a query, Whether plants may not reſtore air diminiſhed by putrefaction from abſorbing part of the phlogiſton with which it is loaded?

The laſt kind of air of which Dr Prieſtly treats, is that procured by means of the ſpirit of ſalt. He found, that copper, lead, iron, tin, and zinc, when diſſolved by the marine acid, yielded an air which loſt its elaſticity by coming in contact with water; after which, the air which remained was inflammable. Water, impregnated with this air, has an acid taſte, diſſolves iron, and has even generated inflammable air. Hence it is probable, that the apparent loſs of elaſticity is owing to part of the air being abſorbed by the water. Fixed air, admitted to the whole produce of the air from theſe metals, had no ſenſible effect upon it; but lime-water became white. The author, however, ſuſpects this to have ariſen from ſome other circumſtance than the precipitation of the lime which it contained. From ſeveral experiments, he was led to conclude, that this ſubtile air did not ariſe from the copper, but from the ſpirit of ſalt. By introducing different ſubſtances to it, he found, that it deprived them of their phlogiſton, with which it unites in ſuch a manner as to conſtitute inflammable air. Hence he concludes, that inflammable air univerſally conſiſts of the union of ſome acid vapour with phlogiſton.

This paper is concluded with ſome miſcellaneous obſervations; a deſcription of the apparatus with which the principal experiments were made; and an appendix, containing ſome experiments made by Mr Hey, which prove, that there is no oil of vitriol in water impregnated with fixed air, extracted from chalk by oil of vitriol. This appendix, among other particulars, contains the hiſtory of a caſe of putrid fever, in which fixed air, injected into the inteſtines by way of clyſter, was attended with good effects.

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We have mentioned, in a former Number, that, in conſequence of this diſſertation on air, the Royal Society of London conferred on Dr Prieſtly their prize-medal for the year 1773. When that medal was preſented to the Doctor at the anniverſary-meeting of the ſociety on the 30th of November, the learned Preſident of that juſtly celebrated inſtitution delivered a diſcourſe on the different kinds of air, which has ſince been publiſhed, at the requeſt of the members.

In this diſcourſe, Sir John Pringle gives an hiſtorical account of all the moſt important diſcoveries that have been made concerning the different kinds of air; and he beſtows the proper tribute of applauſe on thoſe induſtrious philoſophers to whom we are indebted for each. He firſt relates the different particulars brought to light by Mr Boyle, Sir Iſaac Newton, Dr Hales, Dr Seip, Dr Brownrigg, Dr Black, Mr Cavendiſh, Mr Lane, and Dr M'Bride. He then gives a view of the moſt important experiments and concluſions with which Dr Prieſtly has improved this branch of philoſophy. And he concludes, with congratulating the illuſtrious body over which he has the honour to preſide, on the zeal which at preſent ſubſiſts among them for promoting the great end of their inſtitution; on the many intereſting diſcoveries with which philoſophy has lately been enriched; and on the high expectation of future improvements, which may be reaſonably entertained.

Diſputatio

III.

Diſputatio Phyſica Inauguralis de Putredine Animalibus poſt mortem ſuperveniente, Auctore Georgio Pearſon. 8vo, Edinburgi.

THE diſſertation now before us is confined ſolely to that ſpecies of putrefaction which happens to animal ſubſtances after death. It is divided into two parts. The firſt contains an enumeration of the particular facts relating to putrefaction; and the ſecond treats of its cauſes.

The particular facts are aſſembled under three titles, phaenomena, ſeptics, and antiſeptics. In treating of the firſt of theſe, the author begins with a definition of putrefaction, which he conſiders to be a ſpecies of fermentation, characterized by the preſence of fetor. He next relates twelve experiments, from which he deduces ſeveral intereſting concluſions.

1. He obſerves, that his experiments contradict the opinion of thoſe who maintain, that an acid is generated in the proceſs of putrefaction,

or that the acetous fermentation neceſſarily preceeds the putrefactive. Even by the aſſiſtance of the moſt delicate teſt of acidity, he was not able to detect it in the fermentation of thoſe animal matters moſt likely to afford it. Over the fleſh of veal, the broth of veal, and the broth of chicken, were ſuſpended ſlips of paper, ſtained with litmus; and theſe, though evidently moiſtened, preſerved their purple colour, although they would have turned red by the leaſt imaginable portion of acid.

2. He thinks they evidently prove the ſeparation of phlogiſton, and that it flies off even before putrefaction be properly begun. The inflammable air obtained from putrifying ſubſtances, ſimilar to that ſeparated from ſome metals, as proved by an experiment of the Hon. Mr Cavendiſh, and the ſhining appearance of putrifying fleſh, ſometimes even before putrefaction appears, ſeem to the author to confirm his own experiments and concluſions.

3. He deduces from them ſome obſervations with regard to the volatile alkali generated by the proceſs of putrefaction. He was not able to detect it in animal matter putrifying in open veſſels. But there he obſerves its preſence would be fortuitous;

tuitous; becauſe it is only to be diſcovered in the middle ſtadium of putrefaction; and, if the heat to which the ſubſtance is expoſed be great, it eſcapes as faſt as it is generated. He therefore ſuppoſes, that his trials were made either before this ſalt was formed, or after its eſcape.

4. He concludes, that fermentation is not neceſſarily attended with animalcula, as he could detect none in fleſh which he allowed to putrify both in open and cloſe veſſels, although it was carefully examined with a good microſcope both by himſelf and another gentleman well ſkilled in microſcopic obſervations.

5. He draws ſome concluſions with regard to the proclivity of different animals to the proceſs of putrefaction. The general reſult is, that the fleſh of younger animals is ſomewhat more prone to putridity than that of older animals. Dr Pearſon found, however, that the fleſh of a chicken reſiſted putridity as long as beef.

On this ſubject he points out many circumſtances which may vary the event of experiments in other reſpects ſimilar. He does not pretend to have wholly guarded againſt them. He only offers the above concluſion, therefore, as near the truth; and he thinks it the more probable, as he ſound it to be the reſult of repeated trials.

6. He offers ſome obſervations on the nature of the air extricated by putrefactive fermentation. As it rendered water capable of diſſolving iron, and produced a precipitation in lime-water, he concludes it to be fixed air. This precipitation occurred even before any fetor could be obſerved. He concludes, therefore, that the fixed, as well as the inflammable air, eſcapes before putrefaction. That the effects of the one ſhould appear ſooner than the other, although they be ſeparated at the ſame time, he aſcribes to the difference of ſpecific gravity. The loſs of weight which putrifying ſubſtances ſuffer, he conſiders as a farther proof of the ſeparation of fixed air.

7. He obſerves, that, from his experiments, he could not diſcover heat generated by putrefaction, which was alſo the caſe with Mr Baumé. But he ſeems to be doubtful, whether heat may not be generated by a large maſs of putrid animal matter. And he thinks, that the heat perceived by Profeſſor Monro on thruſting his hand into a dead whale, ſeems to countenance the opinion of thoſe who think that it may.

He next conſiders the effects which different ſtates of the atmoſphere have in varying the proceſs of putrefaction. He examines the opinions of different authors to find the degree of heat moſt favouring it; and concludes, that, when there is ſufficient humidity to prevent dryneſs, it will happen ſooneſt with ſolids in the degrees between 90 and 100, and with fluids from 100 to 110 in Fahrenheit's ſcale. He obſerves, indeed, that the fact mentioned by Boerhaave, of the ſudden putrefaction of a dog, killed by confinement in a heat of 146 degrees would ſeem to contradict the above concluſion. But he thinks it probable, that this dog had been expoſed to previous cauſes of putrefaction.

With regard to the dryneſs of the atmoſphere, he obſerves, that, as moiſture is abſolutely neceſſary in the fermentation of animal matter, a dry atmoſphere, by abſtracting it, will either impede, or totally ſtop the proceſs.

The influence of different degrees of gravity in the atmoſphere on putrefaction does not appear from barometrical obſervations; but, from the exeriments of Dr M'Bride and Mr Boiſſieu, Dr Pearſon concludes, that a light atmoſphere will haſten putrefaction, and a heavy one will retard it. From the laſt mentioned author, however, as well as from ſome other authorities, it appears, that an entire excluſion of air totally prevents it.

After theſe obſervations on the ſenſible qualities of the atmoſphere, the author next conſiders the influence of impregnations; and firſt he treats of the effluvia of cities. He obſerves, that putrefaction is more rapid in large towns than in the country; but he does not pretend to determine the nature of the ſeptic effluvia. On the contrary, he conſiders it as an event, which, from reaſoning, we ſhould little expect.

As another cauſe of putridity with which the atmoſphere may be impregnated, he mentions miaſmata. That theſe do at times ſhew very ſeptic effects upon animal ſubſtances, is, he thinks, proved from a fact related by Senac.

He obſerves, that the effects of electric effluvia upon putrefaction, are not determined: But, as the electric fluid has been ſuppoſed to contain the volatile vitriolic acid, joined to the principle of inflammability; and, as the volatile vitriolic acid by itſelf is a ſtrong antiſeptic, he thinks it probable, that the electric fluid may likewiſe poſſeſs the ſame property. But this reaſoning, he obſerves, cannot be truſted to; as there are ſome facts, although ambiguous ones indeed, which lead to a contrary concluſion.

Dr Pearſon finiſhes his account of the phaenomena of putrefaction, with mentioning the effect of wind. A briſk wind, by diſſipating the ſeptic vapours from putrid ſubſtances, retards putrefaction; while a calm, by ſuffering them to be accumulated, haſtens the proceſs. With regard to the points from which the winds blows, he cites a ſingle obſervation to prove, that putrefaction proceeds more rapidly with the wind from the ſouth than from the north.

In treating of the title ſeptics, he enumerates eight ſubſtances which have been ſuppoſed to promote putrefaction. Theſe are ſea-ſalt in a ſmall quantity; bitter purging ſalt; calcareous earth; magneſia human effluvia, even when the body is in a healthy ſtate; putrid animal ſubſtances; quick lime in a ſmall quantity; and fermenting beer.

Under human effluvia, he comprehends the pulmonary and cuticular perſpiration or ſweat. The ſeptic effects of the former he confirms by an experiment. He has given fermenting beer a place under this title, upon the authority of Boiſſieu, although, from two different trials, he found it to be a very powerful antiſeptic.

Under the title of antiſeptics, the author has arranged the ſubſtances which have been ſuppoſed to poſſeſs that power, into claſſes and orders. He refers them to two general heads. I. Antiſeptica putredinem prohibentia et impedientia. II. Antiſeptica putredinem corrigentia et ab ea reſtituentia.

Among the antiſeptica prohibentia et impedientia, he enumerates water impregnated with fixed air, and ſulphureous vapours. He relates ſome experiments, which prove that they poſſeſs this power. Fixed air is well known to be a ſweetner of putrid ſubſtances; but he obſerves, that he has met with no facts which prove that it is capable of preventing putrefaction. The power of ſulphureous vapours in prohibiting the vinous fermentation, are very generally known; and, from the experiments here related, the author ſhews, that this extends alſo to the putrefactive.

After this account of the facts reſpecting putrefaction, the author next proceeds to treat of its cauſes. Theſe he divides into the efficient and final. From a view of the facts, we learn, that without a certain degree of heat, atmoſpheric air, and humidity, no putrefaction can take place. Theſe, therefore, he conſiders as the efficient cauſes. But, altho' the preſence of each of theſe be abſolutely neceſſary, yet, he obſerves, that, when all of them occur, putrefaction does not immediately follow. He thinks, therefore, that, in ſtrict language, they ought not to be termed cauſes.

Concerning the proximate cauſe of putrefaction, the author does not pretend even to conjecture. He obſerves, that reaſoning from analogy, by conſidering the effects of the efficient cauſes on other bodies, will not explain the phaenomena of this fermentation. They are indeed capable of occaſioning a diſſolution of bodies, by inducing fluidity, rarefaction, diminution of coheſion, and vapour: But, in theſe caſes, the effects are always proportioned to the power and degree of the cauſes, which by no means holds in fermentation. Beſides, in the putrefactive fermentation, there appears to be a new combination, as well as a ſeparation. In the other caſes, there takes place merely a ſeparation; and by the parts being again combined, a freſh compound, ſimilar to the former, may be produced.

The author next attempts to explain ſome of the phaenomena preceding putrefaction. The ſoftneſs, increaſe of bulk, and appearance of air-bubles, he aſcribes to the aerial particles in a ſtate of aggregation being removed from each other beyond their ſpheres of attraction, and then exerting a repulſive power. He obſerves, that the power of coheſion in animal matter has been referred to earth, fixed air, and phlogiſton: But he refuſes ſuch a power in any one of the principles of the compound, all being abſolutely neceſſary; and, when any one is taken away, the whole is deſtroyed. Earth, he imagines, cannot be conſidered as the cauſe of coheſion; becauſe, were this the caſe, the whole world would be covered with carcaſes, and no change of combination could ever take place. To the ſuppoſition that fixed air is the univerſal vinculum of matter, he objects, that the moſt cohering bodies in nature have not the leaſt particle of it in their compoſition; beſides this, it eſcapes before putrefaction appears. But, even ſuppoſing its eſcape to be coexiſtent with putrefaction, yet ſtill no explanation of the action of ſeptics or antiſeptics can from thence be drawn. He acknowledges, however, that the power of fixed air in reſtoring putrid ſubſtances to a ſtate of firmneſs and ſweetneſs, is a weighty argument in favour of this opinion: But he obſerves, that theſe effects cannot ariſe from its introduction merely as fixed air into the putrid ſubſtance. Were this the caſe, the proceſs of putrefaction could never proceed moſt rapidly in cloſe veſſels, where the fixed air is confined. Nor does it ſeem, according to our author, to prevent putrefaction, or to correct putrid ſubſtances, in the manner which ſome have ſuppoſed. This has been imagined to depend upon its ſurrounding the body, which is about to putrify, with ſuch an atmoſphere as is unfit for carrying off the principle, upon the eſcape of which putrefaction depends. To this, however, the fact mentioned above, the ſwift progreſs of putrefaction in cloſe veſſels, occurs as an unſurmountable objection: For, were this hypotheſis true, in ſuch a ſituation, putrefaction could never take place.

He obſerves, that moſt of the arguments brought againſt the two former opinions, are equally ſtrong againſt the hypotheſis of thoſe who imagine that putrefaction depends upon the eſcape of phlogiſton.

In the laſt place, he offers ſome objections againſt the opinion which ſuppoſes putrefaction to be entirely the work of animalcula. He conſiders that opinion as more probable, which ſuppoſes, that putrid matters are a proper nidus for theſe animalcula. *1mo*, Becauſe putridity often happens, when no animalcula appear. *2do*, Becauſe they can only be diſcovered after an obvious fetor. *3tio*, Becauſe the degree of fetor is never proportioned to the number of animalcula. And, *laſtly*, Becauſe, although animalcula in general appear during putrefaction in the ſummer months, yet their preſence is always fortuitous.

The author concludes this diſſertation with obſerving, that, from attending to the order of nature with regard to animal and vegetable life, the final cauſe of the putrefactive fermentation appears to be the reſolution of animated forms after death, in order to give birth to a new ſucceſſion.

IV.

Obſervation d'une Fiévre putride vermineuſe épidémique, qui affligeoit le peuple de la ville d'Arbois en Franche Conté pendant l'année 1766*; par* M. Bonnevault, *medecin de l' hôpital de cette ville. Vid. Recueil d'Obſervations de Medecine des Hôpitaux Militaires, Fait et redigé par* M. Richard *de Hauteſierck, Ecuyer, Chevalier de l'Ordre de St Michel, ancien Premier Médecin des camps et armées du Roi, Inſpecteur general des Hopitaux militaires de France, &c.* Tome 2. 4to. Paris.

MANY of our readers are, we preſume, no ſtrangers to the nature of the work from which this, and ſome of the following articles, are extracted. A medical correſpondence is eſtabliſhed by royal authority among the military hoſpitals through the kingdom of France; and it is intended, that the practical obſervations thus collected, ſhall from time to time be communicated to the public. The firſt volume of this collection appeared in the year 1766, and we are now favoured ed with a ſecond. Without attempting any general abridgement of ſo large a work, we ſhall preſent our readers with an account of ſome of the moſt intereſting particulars; thoſe eſpecially which recommend modes of practice, either generally unknown, or little followed.

In this article we are preſented with the account of an epidemic fever, which not only raged very generally, but proved alſo very mortal, about the town of Arbois, in the year 1766. The winter preceeding had been remarkable for exceſſive cold, and the ſpring for long continued rains, by means of which, the peaſants, who are the chief inhabitants of the town, could not exerciſe their uſual labours. Theſe circumſtances, our author imagines, laid the foundation for this epidemic, which commenced about the middle of June.

The diſeaſe uſually began with pain in the head, proſtration of ſtrength, and total loſs of appetite. Theſe were ſucceeded by every other febrile ſymptom, and were in general accompanied with delirium, deafneſs, and lethargy. They were likewiſe frequently conjoined with diarrhoea, which was commonly attended with a diſcharge of worms. To theſe ſymptoms were often ſuperadded purple ſpots, or gangrenous eſchars. When a favourable criſis took place, it was either by the continuance of the diarrhoea, or the ſloughing of theſe eſchars. When this did not happen, death in general put a period to the patient's miſeries about the twenty-firſt day.

This diſeaſe had every appearance of being highly infectious; but it is remarkable, that it attacked neither old people nor infants. The author is of opinion, that this is probably to be aſcribed to the prevalence of acid in the primae viae at theſe periods of life. Thoſe inhabitants likewiſe who ſtudied neatneſs in their dreſs and houſes, were but little affected with it.

Upon the diſſection of thoſe who died of this diſeaſe with violent delirium, the membranes of the brain were in general found upon the ſtretch. And in thoſe affected with low delirium, mortifications were commonly found in the abdomen.

In the cure of this fever, after bleeding thoſe who were of plethoric and robuſt habits, the author adviſed emetics to be repeated as circumſtances required. He likewiſe ordered acidulated drinks to be uſed liberally. And, in caſes where there was a lethargic tendency, he recommended the application of bliſters. With a view of facilitating the diſcharge by the belly, he employed a decoction of tamarinds and ſmall doſes of calomel, joined with ipecacuan. But the remedy which of all others he found moſt ſucceſsful for abating the violence, and ſhortening the duration of the looſeneſs, and at the ſame time for obviating the progreſs of putrefaction, and acting as a cordial to the patient, was camphorated vinegar. By theſe remedies, the violence of this diſeaſe, he tells us, was much abated. At length, by the return of good weather, an entire ſtop was put to it, after it had prevailed for more than eight months, and attacked above three hundred perſons in the town and neighbourhood of Arbois.

V.

De Aſthmate inveterato Scabie ſuperveniente ſanato, a M. Bonifax *Noſocomiorum Medico in Urbe Bellica in Bugeſia. Vid. Recueil d' Obſervations de Medecine des Hôpitaux Militaires, par* M. Richard *de Hauteſierck, Ecuyer, &c.* Tome 2. 4to. Paris.

THE caſe with which we are here preſented, was attended with ſuch ſymptoms as induced the author to derive from it ſeveral very important concluſions. With theſe we ſhall here preſent our readers, firſt premiſing ſuch a view of the hiſtory as may enable them to judge how far they are well founded.

A corpulent man, of a ſanguine temperament, had for thirty years been affected with aſthma. The fits returned upon him at intervals, eſpecially during the prevalence of weſterly winds, and in dry warm weather. In the beginning of the paroxyſm, his breathing became laborious, and was attended with a hiſſing noiſe, and dry cough. Upon this he was obliged to ſit in an erect poſture,

ſture, and to breathe with his mouth open. He could, at the ſame time, ſwallow nothing without the utmoſt difficulty. After in vain trying a great variety of medicines for this complaint, he could find no other remedy which ever abated his ſymptoms, but riding on horſeback.

When in this ſituation, he was infected with the itch. As the eruption extended itſelf, his breathing became every day more eaſy; and, from the time that the contagion took place, he had never any return of an aſthmatic paroxyſm. Some time after, he applied to Mr Bonifax for the cure of his itch; but he endeavoured to perſuade him, that the effect of this would be a renewal of his aſthma. Not ſatisfied with this advice, however, he went for ſome days ſucceſſively into the cold bath, the conſequence of which was the repulſion of his eruption. From this time he began to be as much as ever affected with the difficulty of breathing, and ſoon after a moſt violent aſthmatic paroxyſm followed. From this he was, with conſiderable difficulty, relieved, by bleeding, gentle purgatives, and laxative injections. But, within the ſpace of a month, he had two other aſthmatic fits. Our author, therefore, adviſed him to have recourſe to his former cure, by uſing the bed-cloths of one infected with the itch. Some days after, the eruption appeared, upon which he was again perfectly delivered from his aſthma.

While in this ſtate, he took a purgative once a month, and lived upon milk-diet; by means of which, the itch was ſomewhat mitigated. But, ſome months after, two puſtules, filled with limpid water, ſuch as are occaſioned by ſcalding, appeared upon his ſkin, accompanied with fever. For four or five days, the fever was gradually increaſed, and the puſtules, after inflaming about the baſis, were converted into pus. This our author termed the *febris depuratoria urticaria*; and he treated it with diluents and low diet. About the fifteenth day after the eruption of theſe puſtules, they fell off, being by that time formed into dry cruſts. The patient was now entirely free from fever, his itch had diſappeared, and he continued to enjoy the ſame freedom from aſthma as before. But, as long as he lived, he was always once or twice every year affected with this febris depuratoria urticaria, which always terminated in the manner already deſcribed. At length, in the ſeventy-ſeventh year of his age, he died of a fit of apoplexy.

From this caſe, the author deduces the following concluſions: 1*ſt*, That riding is of great ſervice to aſthmatic patients. 2*dly*, That one diſeaſe may be cured by another ſupervening; in which caſe, nothing can be more imprudent than the removal of the laſt diſeaſe, if it be at all tolerable. 3*dly*, That, if the ſupervening diſeaſe be improperly cured, for the relief of the patient it will frequently be neceſſary to induce it a new, if ſuch a meaſure be poſſible. And, *laſtly*, that the cure of the diſeaſe, thus renewed, is either to be left to nature alone, or to be treated by regimen only, and not by medicines.

VII.

Hydropiſie bilieuſe et purulente, guerie par M. Boucher, *Medecin de Romans en Dauphiné. Vid. Recueil d'Obſervations de Medicine des Hôpitaux Militaires, par* M. Richard *de Hauteſierck, Ecuyer, &c.* Tome 2. 4to, Paris.

ON the 7th of May 1764, Mr Boucher was called to a girl about twenty years of age, affected with evident ſymptoms of hepatitis. For this he ordered repeated bleedings at the arm, fomentations to the part, emollient clyſters, and, with a view of relieving the pain, narcotic draughts. By the fourth day, her pain was ſo much abated, that ſhe was ſenſible of it only upon motion. But there was now diſcovered an evident enlargement of the right hypochondrium, immediately below the falſe ribs. Purgatives, which were employed with a view of diminiſhing this ſwelling, although ſlight, brought back the pain. After uſing ſome other remedies, without effect, a puncture was propoſed, which was performed on the 10th of June. By means of it, twenty pounds of a thick matter, ſo yellow coloured, that that it tinged every thing which touched it, were diſcharged. Four days after, a ſecond puncture was made, which diſcharged above thirty pounds. The operation was repeated a third time on the 25th of June, and nearly the ſame quantity as before was drawn off. After this, ſhe continued pretty free from complaints for a conſiderable time, altho' the ſwelling and fluctuation of her belly never left her entirely.

On the firſt of April the year following, her acute pains returned anew, and her belly ſwelled to ſuch a degree, that it became again neceſſary to have recourſe to puncture. At this time, near forty pints of matter were drawn off, which had preciſely the ſame appearance with that diſcharged the year before. The day after, a hard and painful tumour was diſcovered below the falſe ribs: It was about two inches in breadth, and ſix in length. Her inferior extremities were now much ſwelled, and the ſuperior greatly emaciated. Her appetite was deſtroyed, her ſtrength diminiſhed, her menſes ſuppreſſed, and her pulſe ſmall, hard, and frequent.

The puncture was repeated on the 29th of May, and produced a diſcharge very ſimilar to the former.

mer. It was again repeated on the 26th of June; but the liquor diſcharged was not then uniformly yellow, as it had been formerly. Matters of a white colour, and, to appearance, purulent, were now obſerved ſwimming in it.

On the 26th of July, the puncture was repeated for the ſeventh time. By this operation, there was diſcharged a prodigious quantity both of pus and bilious matter, which did not ſeem to be mixed together, but appeared perfectly ſeparate and diſtinct. They emitted an odour unſupportably fetid.

Some days after this operation, there aroſe a tumour on the umbilical region, which gradually enlarged, and, at length, broke on the 25th of Auguſt. It diſcharged a great quantity of matter ſimilar to that which had formerly been brought away by the punctures. This kind of matter continued to ouze out from it, till about the end of October. The ulcer then began to cicatrize, and was ſoon after compleatly healed.

About the end of December, ſhe was ſeized with an itchy eruption all over the ſurſace of her body; her ſkin every where peeled off; her nails, which had become horny, were replaced by new ones; her countenance recovered its natural colour; her appetite returned; her menſes appeared again, and continued regular; in fine, ſhe perfectly regained her former health and vigour. It is remarkable, that, during the whole courſe of this complaint, neither the eyes nor urine ever appeared to have the leaſt yellow tinge. From this caſe, Mr Boucher infers, that a recovery ſo ſurpriſing ought to encourage phyſicians to imitate, aſſiſt, and compleat the efforts of nature.

VIII.

De l'Hydropiſie. Effets que produiſſent les Pilules toniques de M. Bacher *dans cette Maladie, et leur compoſition. Par* M. Richard *de Hauteſierck. Vid. Recueil des Obſervations de Medecine des Hôpitaux Militaires.* Tome 2. 4to. Paris.

OF all the remedies hitherto propoſed for dropſy, no one has yet been diſcovered which from experience has been found attended with ſucceſs uniformly certain. Some of them, by occaſioning a ſudden and copious diſcharge, produce an alleviation of ſymptoms, expeditious indeed, but temporary only. Others, although certain in their operation, are yet ſo ſlow, that urgent ſymptoms will frequently cut off the patient before their effect be produced. And, a third ſet, while they remove ſome ſymptoms, at the ſame time aggravate others in ſuch a manner, as to render the diſeaſe perfectly incurable. Hence, a remedy in its nature effectual, and, at the ſame time, free from all thoſe inconveniencies, would unqueſtionably be a great acquiſition to the medical art. Such a remedy, we are here told, is to be found in the pills of Mr Bacher.

This cure for dropſy, although kept a ſecret, has, for ſome time, had great reputation in France. It has been tried, by order of the court, in the military hoſpitals, and is now publiſhed in the preſent work. Before mentioning the method of preparing Mr Bacher's pills, Mr Richard preſents us with ſome obſervations on the nature of Dropſy, and on the remedies generally employed for the cure of it.

The moſt important of theſe remarks reſpect the uſe of liquids in dropſy. Notwithſtanding the urgent thriſt in the dropſy, it has hitherto been the practice to recommend, that liquids ſhould be uſed as ſparingly as poſſible. On the contrary, great part of the ſucceſs of Mr Bacher's remedy is alledged to depend upon the abundant uſe of mild liquids. We are not only told that Mr Bacher's tonic pills are dangerous without the free uſe of liquids, but that dropſical patients ſhould, in every caſe, be enjoined to drink plentifully, upon whatever principle a cure is attempted. This doctrine, Mr Richard aſſures us, is eſtabliſhed by incontrovertible facts; and he conſiders it as a diſcovery for which Mr Bacher is as well entitled to the thanks of the public as for the invention of his tonic pills.

Mr Bacher's pills are compoſed of an extract of hellebore, a ſolution of mirrh, and powder of Carduus Benedictus. The extract is prepared from the *Helleborus niger foliis anguſtioribus* of Tournefort, and is directed to be made in the following manner: Take any quantity of the dried roots of the hellebore, gently bruiſed, put it into an earthen or glaſs veſſel, pour upon it as much ſpirit of wine as will moiſten the whole; let this ſpirit of wine be impregnated with vegetable alkali, one part of alkali being added to nine of ſpirit. Let the root remain in this ſituation for twelve hours, ſtirring it two or three times at proper intervals. After this, add to it a freſh quantity of the ſpirit, treating it in the ſame manner as before. Then pour upon it as much good Reniſh wine as will ſtand about ſix inches over it. As the roots abſorb a conſiderable proportion of wine, let frequent additions be made ſo as to keep the liquor for forty-eight hours about the ſame height. The materials being thus prepared, let the whole be placed upon the fire, boiled for half an hour, and then ſtrained off, by the aſſiſtance of violent expreſſion. Let the ſame proceſs be again repeated, with the root remaining after the expreſſion. After this, the inſipid woody reſiduum may be thrown away. Mix the liquors obtained at both expreſſions, and add to the whole twice the quantity of boiling water. Let it then be evaporated over the fire in a broad ſilver veſſel, till it acquire the conſiſtence of a ſyrup. Add to it again about twice the quantity of boiling water, and evaporate as before. Then add about a ninth part of the ſpirit of wine, and evaporate the whole to the conſiſtence of turpentine. The extract thus prepared, according to Mr Bacher, poſſeſſes the active qualities of the hellebore, while, at the ſame time, it is freed from all the volatile, nauſeous, and acrid particles.

The ſolution of myrrh is prepared in the following manner: Let any quantity of it, groſsly powdered be diſſolved in water over a gentle fire, then ſtrain it through a linen-cloth, and afterwards evaporate over a gentle fire, conſtantly ſtirring it, till it acquire the conſiſtence of a thin extract.

The only preparation neceſſary for the carduus benedictus conſiſts in reducing to a powder the leaves of the plant, gathered before it arrives at ſeed, and in paſſing this powder through a ſilk ſearce.

The formula which Mr Bacher gives for his pills is as follows:

℞. Extract. noſtr. hellebor.
Mirrhae ſolutae *aa* ℥i.
Card. bened. pulveris. ʒiii. ℈i. M.

F. s. a. maſſa äere ſicco exſiccanda, donec formandis pilulis apta ſit. ſingul. ad gran. ſemiſs.

Since the year 1731, Mr Bacher ſenior has employed theſe pills with great ſucceſs. In 1772, he gave the receipt to the Marquis de Monteynard, the miniſter at war, by whoſe orders this remedy has been tried in the military hoſpitals. And Mr Richard has here collected above twenty caſes, recorded by different phyſicians, who tried them there; in all which they were attended with remarkable ſucceſs, even when every ſymptom ſeemed to portend the greateſt danger. They have been given to the extent of thirty for a doſe, taken in three portions of ten each, at the diſtance of an hour between every portion. The quantity taken, however, muſt be regulated by the effect they produce, which is a very copious evacuation, both by ſtool and urine. It is alledged, that they will at the ſame time ſerve to brace up and ſtrengthen the ſolids. Hence, they are prohibited in all thoſe caſes in which dropſy is complicated with a tenſe fibre, or inflammatory diatheſis. They are alſo forbid where there is any ſuſpicion of internal ſuppuration, or incipient gangrene. They muſt alſo, we are told, be uſed with great caution in warm climates; as, in ſuch a ſituation, they have a tendency to produce too violent a diſcharge. But, in all caſes of dropſy attended with relaxation, this remedy, the baſis of which was ſo effectual in the hands of Hippocrates, may, we are aſſured, be uſed with the greateſt ſucceſs. And Mr Richard concludes with obſerving, that it gives him ſingular ſatisfaction to make public, by order of the miniſter, a remedy ſo powerful for the removal of one of the moſt obſtinate and moſt common diſeaſes with which mankind are afflicted.

IX.

Dépôt critique au Foie gueri par l'ouverture. Par M. Michel, *Chirurgien-major du regiment d'Enguien. Vid. Recueil des Obſervations de Medecine des Hôpitaux Militaires. Par* M. Richard *de Hauteſierck, Ecuyer, &c.* Tome 2d. 4to. Paris.

AN elderly man, after a bilious fever, felt a pain in the right hypochondrium, which he bore for ſome days with very little inconvenience. Mr Michel was at this time conſulted. Upon touching the region of the liver, he was ſenſible of uncommon reſiſtence, and the patient at the ſame time felt an acute pain. He was, beſides this, affected with fever and ſlight ſweatings. The author conſidered this caſe to be an incipient ſuppuration of the liver, and ordered the application of emollient cataplaſms. The day following, the pain was augmented, and a conſiderable tumour could be diſcovered. Soon after, fluctuation could be ſenſibly felt. Upon this, an opening was made into it, and a very conſiderable quantity of purulent brown coloured matter was diſcharged. A finger was introduced into the abſceſs, which extended to the depth of about an inch and a half into the liver. The wound being much ſtuffed by the dreſſings, a bilious vomiting enſued; which however, ceaſed, as ſoon as the dreſſings were eaſed. But this was the only inconvenience he felt; and he was ſoon radically cured. At the end of two years, the author ſaw him in perfect health.

X.

Des Drageés, ou Pilules de M. Keyſer. *Par* M. Richard *de Hauteſierck. Vid. Recueil des Obſervations de Medecine des Hôpitaux Militaires.* Tome 2. 4to. Paris.

FEW medicines, while kept ſecret, have awakened the attention of the public in a higher degree than Mr Keyſer's pills. And there are few, concerning the compoſition of which, a greater number of conjectures have been riſked. The preſcription, however, was long ſince depoſited in the hands of the French government, upon condition that it ſhould not be publiſhed till the death of the author. That event has now taken place; and Mr Richard, by order of the miniſter,

niſter, here relates the whole proceſs, in the words of the author himſelf.

The account with which we are preſented, for the preparation of theſe pills, deſcribes ſix different operations.

The firſt, and what, according to Mr Keyſer, is the moſt eſſential operation, conſiſts in ſeparating the mercury very exactly from all heterogeneous matter, by reducing it to an aethiops. This is effected by means of an hydraulic machine, a plan of which Mr Keyſer intended to have given to government before his death: But, although he did not live to accompliſh his reſolution, his family ſtill offer to do it when deſired. According to the deſcription which is here given, this machine conſiſts of a number of buckets, in which mercury is triturated with water, till the water acquire a black colour. This water, upon ſtanding, depoſites a ſediment, which being dried by a proper heat, is the aethiops required.

The ſecond proceſs conſiſts in revivifying the mercury by diſtillation, in freeing it from all oily matters by means of quick-lime; in detaching this quick-lime by repeated waſhings;

and, afterwards, in drying it by means of a ſand-heat.

The third operation conſiſts in the reduction of the mercury purified by this proceſs to a red calx, by means of heat. In conducting this operation, Mr Keyſer adviſes, that the mercury be put into glaſs matraſſes, a ſmall quantity only in each. For the proper degree of heat, he directs thoſe who would practiſe the operation, to conſult Lemery, and other chemiſts.

The fourth operation is, the diſſolution of the calcined mercury, obtained by the former proceſs, in diſtilled vinegar, by means of triture. A pound of this mercury may be diſſolved in eight pints of vinegar, by rubbing it, for an hour or two, in a mortar, which ſhould be kept ſolely for that purpoſe. Care muſt alſo be taken that the vinegar be not diſtilled in a metallic, but in a glaſs veſſel.

The fifth proceſs conſiſts in the intimate mixture of this vinegar, impregnated with mercury, with manna. Each pound of the vinegar, containing about two ounces of mercury, will require two pounds of manna. They muſt be rubbed together upon marble ſtones, till they acquire a uniform conſiſtence, which will be ſo far liquid as to paſs through a hair-cloth, for ſeparating the impurities of the manna. After being managed in this manner, it muſt be ſpread upon a marble ſlab, and left to dry there, without the aſſiſtance of fire, till it acquires ſuch a conſiſtence as not to run off upon the table being turned to its ſide. It muſt then be placed before the fire, and at the ſame time moved from one part of the ſtone to another, by means of a knife, furniſhed with a large pliant blade. By this means, it is perfectly prepared for forming the pills.

The ſixth and laſt proceſs conſiſts in the formation of the maſs thus prepared into pills. Theſe Mr Keyſer made to weigh either three grains, or a grain and a half, the firſt for robuſt, the laſt for delicate conſtitutions.

To this account given by Mr Keyſer for the preparation of his pills, he has added ſome additional reflections, by way of ſupplement. He obſerves, that, by the purification of the mercury from diſtillation, a great quantity of heterogeneous matter is ſeparated from it. This, however, by no means frees it compleatly from all foreign matter. And, as mercury purified, upon being calcined and diſſolved in vegetable acid, is a much more powerful medicine than mercury calcined without purification, he concludes, that repeated purifications would render it ſtill more active.

Another remark which he gives, reſpects the diſſolution of the mercurius calcinatus in the diſtilled vinegar. He obſerves, that the mercury thus diſſolved, may be made to unite with running mercury, and to form a very ſingular product. He formerly mentioned, that a pound of this mercurius was to be diſſolved in eight pints of vinegar. If to this be added two pounds of running mercury, and the agitation continued, a ſubſtance will ariſe to the ſurface in the form of cream. This being removed by the aſſiſtance of a wooden ſpoon, more will continue to riſe as long as the agitation is continued. The cream being dried, and incorporated with manna, in the proportion of one part of the cream to eight of manna, forms a very uſeful purgative, and is ſaid to be an effectual remedy againſt recent venereal complaints, particularly againſt chancers.

Mr Richard concludes his account of Keyſer's pills with obſerving, that he conſiders it to be, without exception, the moſt effectual remedy for the venereal diſeaſe hitherto diſcovered. But, before entering upon the detail, he remarks, that it is his opinion the proceſs may be much abridged, without diminiſhing the efficacy of the medicine. He judged it proper, however, to deliver to the public the method of preparing the pills in Mr Keyſer's own words; and he has not afterwards pointed out the improvements he propoſes. This, therefore, is a ſubject upon which chymiſts may exert their ingenuity, and probably with advantage to the public.

SECT. II.

Medical Obſervations.

I.

An Account of the Operation for the Aneuriſm being performed upon the Femoral Artery, with Succeſs, by Mr Charles Leſlie *Surgeon at Cork. Communicated to Dr* Monro.

A Young man about fourteen years of age, plunged a pen-knife about three inches long, into the inſide of his thigh, where the femoral artery begins to make its curve to form the poplitea. The blood, at firſt, flowed with great violence; but, from the ſmallneſs of the wound, as the blade of the pen-knife was very narrow, it ſoon inſinuated itſelf into the cellular membrane all round. From the preſſure made by his companions who were preſent, it ſoon became grumous, and compleatly corked up the orifice.

At this time, he was twelve miles from any proper aid, and was under the direction of an apothecary, who, ignorant of what had happened within, treated it for ten days as a ſuperficial wound. But, being alarmed by its not healing, and obſerving a pulſation in the part, he brought him to the town of Cork, and put him under the care of Mr Dacut, an ingenious man in his profeſſion. He, ſuſpecting the miſchief, called for my aſſiſtance; and, upon examination, there remained no doubt of its being an aneuriſm.

I recommended that the operation ſhould be immediately performed. But the parents, who ſtrongly objected to the cruelty of ſuch a cure, in a caſe, which, to them, ſeemed trifling, put it off from day to day for three weeks. During all this time, I repeatedly affirmed, that the coagulated blood, which then acted the part of a cork, would ſoon diſengage itſelf, and that he might loſe his life for want of timely aſſiſtance. The event proved the truth of my prognoſtic. For, about the end of the third week after I ſaw him, as he was dreſſing the ſore, the clot of grumous blood flew out with violence, and the blood from the artery almoſt reached the top of the bed in which he lay. As he had been directed to keep a tourniquet upon the leg, to guard againſt ſuch an accident, it was immediately tightned, and the flux of blood by that means ſtopped.

Every help was now called for; and it was the general opinion that the limb ſhould be amputated, without expoſing his life to any farther hazard. I ſtrongly objected to this ſtep, till every other means of taking up the artery had failed. From my being the propoſer of ſuch a trial, it fell to my lot to go through the operation. I could not promiſe ſucceſs; but, as I had frequently performed the operation in the arm, I ſet about it boldly, determined, if poſſible, to ſucceed. I made the external inciſion from ſix to eight inches long, leſt a firſt attempt with the needle ſhould fail. After diſcharging the grumous blood, and ſeveral pieces of the cellular ſubſtance in a putrified ſtate, I diſcovered the wound in the artery. I paſſed a large crooked needle above the opening, and another an inch higher. Upon tying the firſt, I found I had ſecured the veſſel, ſo as to prevent any loſs of blood. The other thread was left to guard againſt accidents. To prevent any diſcharge from recurrent veſſels, I paſſed a third ligature below the wound, and ſecured it alſo. The tourniquet was then looſened, and every thing promiſed ſo well, that the wound was dreſſed up. Every precaution was, however, taken, by proper compreſſes, and a ſlight application of the tourniquet, to leſſen the force of the blood in the veſſel. But, in half an hour, a freſh alarm was given, and the flux of blood appeared as great as at firſt. Amputation was again urged. Encouraged, however, by the hopes I had conceived from the firſt attempt, as my patient's ſtrength was yet unimpaired, I inſiſted on another trial. It was agreed to. Upon removing the dreſſings, I found, that the firſt ligature had cut through the adjacent parts, which, from the operation being ſo long delayed, had become putrid, and unable to make ſufficient reſiſtence. By this means, the preſſure of the igature upon the veſſel was removed.

I now reſolved to take a freſh firm ſpot higher up. And, from the ſize of the aperture in the firſt operation, I had little more to cut. However, to make ſure of it, I took up the veſſel three inches at leaſt above the former ligature. Securing every thing as before, I left the tourniquet at liberty, and the wound, without any bandage, for an hour. At the end of that time, finding every thing to my wiſhes, I dreſſed all, and ſettled him to reſt. From this moment, except the pain brought on by the operation, he never experienced any inconvenience. A ſlight ſwelling indeed in the leg and foot, with an inability of movement, continued for ſome weeks. But the wound healed kindly, his ſtrength of limb returned gradually, and at preſent he feels not the leaſt defect.

II.

The Hiſtory of a Suppuration in the Brain, terminating fatally; with an Account of the Appearances upon Diſſection. By ———.

ON the 6th of September 1771, I was deſired to viſit a gentleman about 36 years of age, who, for two or three days, had been affected with a violent pain in his right ear. He informed me, that, for ſeveral years he had been deaf of that ear, and that, ever ſince his infancy, a little purulent matter uſed at times to be diſcharged from it; but without occaſioning any uneaſineſs to him. Upon looking into his ear, I obſerved ſome purulent matter; in conſequence of which, I ordered warm water to be injected into it, and adviſed him to take an anodyne at night, and, the morning after, a doſe of the aloetic pill, with a few grains of calomel.

September 8. He continued much in the ſame way as when I firſt ſaw him. But, at night, the pain in his ear was much aggravated, and ſhot acroſs his head. He was then blooded with leeches in the right temple, and, after that, having ſome inclination to vomit, he got a ſcruple of ipecacuanha, which operated five or ſix times. By theſe means, his head-ach was a good deal relieved.

9. He had paſſed a very bad night, and his head-ach was little better than it had been the preceeding evening; upon which a bliſter was applied over his whole head.

10. Notwithſtanding the bliſter, his head-ach continued much as before, and he complained of his ſtomach; for which he was ordered a doſe of rhubarb and calomel, to be taken the following morning.

11. His head-ach was more violent than ever; and he was much affected with ſourneſs in his

ſtomach. He was then blooded in the temporal artery to ſix ounces; and, as the purgative which was taken in the morning had not operated, he got a dram of magneſia, which was repeated in two hours. This procured three ſtools; but neither the purging nor bleeding had any influence in relieving his headach. Part of his head, which had been before bliſtered, was ordered to be kept running with epiſpaſtic ointment.

12. He continued much pained, and was very reſtleſs till about four or five in the morning of the 13th, when he had a quiet ſleep, and awaked entirely free from pain. Through the day, he ſlept a good deal, and, at intervals, eat victuals with a tolerable appetite, which he had not done from the time that he was firſt attacked with the headach. Towards evening, however, he ſeemed dull and heavy, and talked a good deal thro' his ſleep; upon which a bliſter was applied to his back.

On the night of the 13th, he became delirious, and talked inceſſantly through the whole of the day following. His pulſe, however, in the morning, did not exceed eighty in the minute; the heat of his ſkin was no more than natural; he had no drought; and his tongue was moiſt and clean. He was at that time ordered a ſolution of glauber's ſalt, by way of purgative. In the evening, he felt very warm; his pulſe had riſen to 96, and was full and ſtrong. He was then ordered to loſe ten ounces of blood, which proved very ſizy. He got a mixture of nitre and vinegar, to be taken by ſpoonfuls every two or three hours. And, as the glauber's ſalt taken in the morning had not operated, a purgative clyſter was thrown up, which, however, produced no ſtool.

15. He continued to ſleep and rave by turns. In the morning, he was ſcarified and cupped on the right temple; in the forenoon, he had five or ſix ſtools, which were paſſed without his being ſenſible of it; and, towards evening, he was ſeized with a heavy apoplectic ſleep; upon which half a doſe of one of Dr James's powders was ordered to be given him every three or four hours through the night.

16. He paſſed a good deal both of feces and urine involuntarily; after which, he ſeemed to be ſomewhat relieved. At night, however, he was much affected with ſtartings, and ſubſultus tendinum. He then loſt twelve ounces of blood,

which was as ſizy as before. The nitrous mixture and James's powders were ordered to be continued.

On the morning of the 17th, he was again ſcarified and cupped; his ſtartings and ſubſultus tendinum were worſe than before; and he frequently toſſed about his legs and arms with great violence. His urine, which had been always before diſcharged in quantities at a time, now came from him continually, and in drops.

18. He had violent ſtartings, and much delirium; his pulſe was in general above a hundred; and, although his eye looked well, yet, upon its being ſuddenly opened, and a lighted candle brought very near it, the pupil ſuffered no contraction. He was that day blooded with leeches on the temples; and, as he could not ſwallow but with very great difficulty, bliſters were applied to his fauces, It deſerves to be remarked, that, from the 14th, he never aſked for food; but, when it was offered him, he took it freely till that afternoon.

During all the 19th, he lay quite inſenſible, affected with ſtartings, ſubſultus tendinum, and laborious breathing. His pulſe varied from an hundred to an hundred and forty. He had alſo a conſtant ſtillicidium urinae; notwithſtanding which, there was a hardneſs felt at the under part of his belly, which was eaſily known to ariſe from a diſtention of the bladder. A catheter was then introduced, and near two pints of urine drawn off, but not without the aſſiſtance of preſſure upon his belly. After this, his pulſe became gradually quicker and quicker, his breathing more laborious, and he died on the 20th about ſix in the morning.

Upon the diſſection of his head after death, the middle and poſterior lobes of the right hemiſphere of the brain, at their upper part, for the breadth of near two inches, adhered firmly to the dura mater, covering the os petroſum, and to the tentorium cerebellum ſuperextenſum.

On cutting into that part of the brain, an abſceſs was diſcovered, containing near two ounces of very fetid greeniſh coloured pus, which was confined below by the adheſion already mentioned, and had deſtroyed the ſubſtance of the brain above, as high as the lower part of the inferior cornu of the right lateral ventricle.

On laying open the ventricles of the brain, the ſurface of the left corpus ſtriatum was found in-

inflamed. Both thalmi nervorum opticorum were of a dark purple colour on their ſurface, and, at their under and back part, contained ſome quantity of greeniſh fetid pus. The ſeptum lucidum, fornix, ſides of the third ventricle, and the anterior proceſs of the cerebellum, which is over the valvula Vieuſſenii, were ſofter than natural, of a greeniſh colour, and had a fetid ſmell.

Clear viſcid lymph, to the quantity of a teaſpoonful or two, was obſerved in the ventricles of the brain. The brain and cerebellum, with the medulla ſpinalis, except in the particulars already mentioned, ſeemed to be in a ſound ſtate.

The dura mater covering the os petroſum, was of a darker colour than on the other ſide, and, as was already obſerved, adhered in part to the brain. The os petroſum of this ſide was likewiſe of a darker colour than on the left; but it was neither ſpongy, nor in the leaſt degree carious.

The right meatus auditorius was filled with fetid pus of a browniſh yellow colour; and the membrane of the drum, and ſmall bones of the ear, had been formerly quite conſumed; ſo that the pus filled likewiſe the cavity of the tympanum.

III.

III.

A Caſe of an imperforate Hymen by Mr Alexander Eaſon, *Surgeon to the eighteenth Regiment of Dragoons.*

ROSE DAVEY, aged eighteen years, who never had the menſes, complained to me of a ſwelling in her belly, of ſome months ſtanding, increaſing in ſize, and giving here more pain every day. Upon examination, I found it to riſe over the pubis, inclining to the right ſide. Her baſhfulneſs made her conceal the real cauſe of this complaint; but a female relation of hers ſtanding by, told me that ſhe had not paſſage like other women. From a ſimilar caſe mentioned by Dr Cleghorn in his lectures, I readily gueſſed, that the hymen was imperforate. Upon examination, I found it to be ſo; and, when I put a finger upon the hymen, and my other hand on the tumour of the abdomen, by making an alternate preſſure, I could diſtinctly feel a fluctuation. An aperture was immediately made, at which there flowed out about four pounds of thick black blood, not unlike molaſſes, both in colour and conſiſtence, but without any ſmell. In my opinion, there is not the leaſt doubt, that this woman had menſtruated repeatedly, and that the thinner parts were abſorbed, while the grumous part remained in the uterus. She now continues well, and has the menſtrual diſcharge regularly.

IV.

A remarkable Hiſtory of an imperforate Hymen, by Dr Samuel M'Cormick, *Phyſician at Antrim.*

J—— A———, when about ſixteen years of age, began to be affected with thoſe ſymptoms which uſually occur to females at that period of life. Little attention was paid to her caſe for more than a year, as it was imagined that time, and the uſe of ſuch herbs as good women generally give for theſe complaints, would anſwer the end of bringing on her menſtrual diſcharge. But her complaints growing more ſevere from time to time, particularly about the monthly periods, her parents applied to a phyſician for his aſſiſtance. By his advice, ſhe continued for at leaſt

a

a year in a courſe of the ſtrongeſt emmenagogue medicines that could be given. But, in place of relieving, they always exaſperated her complaints.

By the time ſhe arrived at twenty-three years of age, ſhe was in a moſt deplorable ſtate. It was indeed ſhocking to hear her lamentable cries. Her pains could not be diſtinguiſhed from the very laſt effort of a woman in labour; and they intermitted in the ſame manner every ten or fifteen minutes. In this ſituation, death, which was daily expected, was even ardently wiſhed for by all her friends. Theſe violent pains, however, were not conſtant. They generally continued for three or four days at a time, and would then ſo far remit of their violence for two or three weeks, that ſhe could get a little ſleep, and was able to take ſome nouriſhment. But, at the end of theſe intervals, they again returned as formerly.

In this ſituation, I was applied to. As two caſes had before occurred to me where the ſymptoms were ſomewhat ſimilar, which I found to ariſe from the hymen being imperforate, I ſuſpected that the preſent complaints might be produced from the ſame cauſe. Upon examination, it was found, that there was not only no perforation, but one ſolid maſs of fleſh ſeemed to fill up the whole vagina. No fluctuation could here be obſerved from the contained menſtrual humour, as I had found in other caſes. It was, however, thought expedient to attempt ſomething, as a continuance of her complaints ſeemed to threaten certain death. Beſides the circumſtance already mentioned, another very diſcouraging in this patient was, that the ſpace between the anus and meatus urinarius was much leſs than uſual, although ſhe was of a large groſs make. The method, therefore, which was thought to be moſt adviſeable, and to be attended with leaſt danger, was to paſs up a ſmall canula with a perforator, ſuch as is uſed in taping for the dropſy, but of a longer make. It was accordingly puſhed up about three inches, as nearly in the direction of the vagina as could be gueſſed at. Upon withdrawing the perforator at this time, nothing appeared. But, after proceeding about an inch farther, there iſſued out a little thick black grumous blood, reſembling tar, which could not paſs freely from the narrowneſs of the inſtrument, and the viſcidity of the humour.

Encouraged by this promiſing appearance, a larger inſtrument of the ſame conſtruction was then paſſed up. Upon this, a very plentiful diſcharge of the ſame dark coloured matter enſued. There came away no leſs than four or five quarts of it, without any offenſive ſmell, or the leaſt appearance of putrefaction; a remarkable inſtance how long extravaſated blood may be lodged in the human body without turning putrid, when the external air has no acceſs to it. For, no doubt, ſome of this blood had been lodged in the uterus at leaſt ſeven years. The more liquid part of it being taken up by the abſorbents, had left the remainder in the condition mentioned above. By uſing at firſt ſponge-tents, and afterwards large doſils, armed with digeſtive, the vagina was ſufficiently dilated, and, in three weeks, the menſtrual diſcharge appeared of its natural colour. In twelve months after, this patient ventured upon a huſband, and is at this day the mother of three fine children.

V.

An Account of the Diſcharge of Feces mixed with the Urine from the Urethra of a Woman. By Mr James Hill, *Surgeon in Dumfries.*

A Middle aged lady, in ſpring 1749, became affected with obſtinate coſtiveneſs. For this complaint, ſhe uſed, from time to time, laxatives of different kinds, which, although they alleviated her complaint, did not remove it.

About the beginning of May, ſhe went to a conſiderable diſtance in the country. There, as ſhe afterwards informed me, her complaints returned with greater violence than they had ever done before. In ſpite of all the aſſiſtance ſhe could obtain, ſhe had no paſſage, either by ſtool or urine, for the ſpace of eight days. During all this time, ſhe was affected with the moſt excruciating pains, and her belly ſwelled to a ſurpriſing degree, although ſhe laboured under an almoſt conſtant vomiting. After this, ſhe diſcharged ſome urine; but it was mixed with a conſiderable quantity of feces. She had then a ſtool, and the ſwelling of her belly fell conſiderably, although not altogether.

About the middle of May, ſhe came again under my care. After her return, ſhe lived about three months. During all this time, ſhe never paſſed one drop of urine without a mixture of feces. And this had been the caſe from the firſt time that her urine was ſo long obſtructed in the beginning of May; altho', during the whole time, ſhe continued to paſs ſome feces in the natural way. Another circumſtance, which deſerves to be remarked in this caſe, is, that no ſooner did any flatulencies move in her ſtomach or bowels, but they made their way to the bladder. There they were retained till a convenient opportunity, when they were always diſcharged with a very great noiſe.

After ſhe had continued in this ſtate for ſome time, her belly again began to ſwell, and continued to increaſe ſlowly till ſhe died, which was about the middle of Auguſt. At that time, it was greatly diſtended. It was imagined, that this laſt ſwelling was owing to the coheſion of the inteſtines with the bladder not being compleatly tight. Suppoſing this to be the caſe, the contents of either might make their way into the abdomen.

To be ſatisfied in this particular, and to be able to judge with greater certainty concerning the ſtate of the parts affected, at the deſire of Dr Hay and Dr Gilchriſt, both of whom attended this patient in her laſt illneſs, I ſolicited permiſſion to open the body. But it was refuſed.

VI.

The Caſe of a Man affected with a Difficulty in paſſing Urine, occaſioned by a Diſcharge of Wind from the Urethra. By Anthony Fothergill, *M.D. Phyſician at Northampton.*

SOME time ago, I was conſulted by an old man, upwards of ſeventy, who had long laboured under a chronic diarrhoea, and great flatulency in the bowels. But his principal complaint was a difficulty of urine, with which he had been ſeverely afflicted for ſome months, and which was now attended with ſome very peculiar circumſtances.

According to his own account, he was unable to empty his bladder without ſeveral painful and ineffectual efforts, occaſioned by wind collected in the urethra, which produced an audible whizzing noiſe, and diſcharged itſelf in bubbles. Then a freſh ſtream of urine would flow till it received another ſudden check from a freſh quantity of air crowding into the canal, and ſoliciting its diſcharge. This ſtrange account excited my attention to aſcertain, if poſſible, the cauſe of ſo unuſual a phaenomenon. Before he left me, an opportunity offered of gratifying my curioſity, and of fully ſatisfying myſelf of the truth of his account.

On his endeavouring to paſs urine in my preſence, the whizzing noiſe in the urethra became very ſenſible, and preſently formed a ſucceſſion of bubbles at the extremity of the glans. That elaſtic air iſſued from the bladder, was therefore now unqueſtionable. But how it got there was not very evident. The blood, and other animal fluids, have been ſhewn by modern philoſophers to contain fixable air, which, under certain circumſtances, may be extricated from them, and become elaſtic. Why may not this happen in the urine? This might ſeem plauſible, but not ſatisfactory, as no circumſtance accompanied the preſent caſe which could be preſumed capable of producing ſuch an extrication of air in the bladder. It therefore now occurred to me, that elaſtic air could not be preſent in the bladder, unleſs it was tranſmitted by ſome praeternatural communication with the inteſtines. And, for this purpoſe, it was only neceſſary to admit a previous inflammation of either the external coat of the bladder or rectum, and a conſequent coheſion of the two terminating in ſuppuration, and forming a perforation thro' each viſcus. As the principal circumſtances correſponded with this idea, I found no difficulty in admitting it; and I had afterwards the moſt ample teſtimony, that it was not ill founded. Why the air ſhould intercept the urine in its courſe through the urethra, will not appear wonderful to thoſe who have conſidered its effects in common water-pipes.

The uva urſi, ſo ſtrongly recommended by Dr de Haen in ulcerations of the urinary paſſages, was adminiſtred; but it ſeemed to exaſperate the diſeaſe. Indeed, under ſuch deplorable circumſtances, and at ſo advanced a period of life, when the ſtrength was ſo nearly exhauſted, no hopes of recovery could be entertained from any medicine whatever. The ſymptoms, however, were, in ſome degree, alleviated by mucilaginous medicines, joined with the Peruvian bark, and opium at intervals. In this way he continued to linger on about two months. Ten days before his death, the diſcharge of wind by the urethra increaſed much, and was attended with conſtant pains and teneſmus. Purulent matter, and real alvine feces now accompanied his urine. This proved to a demonſtration, although leave could not be obtained to inſpect the diſeaſed parts after death, that there was a direct communication between the bladder and rectum.

In younger ſubjects, this diſeaſe might poſſibly, in ſome inſtances, though never without great difficulty, be cured by a courſe of aſs-milk with Briſtol-water, together with a ſtrict regimen, and a prudent uſe of mild balſamic medicines and injections. In old age, although the diſeaſe be incurable, yet it is of conſequence to the practitioner, as well as to the patient and his friends, that a right judgement ſhould be formed of its nature and probable event. This end, however, can only be obtained from ſuch ſingular caſes being faithfully recorded when they do occur.

SECT. III.

Medical News.

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A Very conſiderable period of time has now elapſed ſince Dr Hervey ſuggeſted, that the blood was poſſeſſed of a living principle. His opinion concerning this particular never ſeems to have gained much ground, and has been long entirely neglected. But Mr John Hunter of London has lately endeavoured to revive this doctrine; and, from attentive anatomical inveſtigation, has adduced many ingenious arguments, to prove, that the blood is really alive. A view of theſe cannot fail to be highly acceptable to our readers.

The ſenſe in which Mr Hunter adopts the term *life*, may be underſtood from obſerving, that he conſiders a muſcle cut out of the body to be alive

live as long as it continues capable of being acted upon by ſtimuli of any kind.

He is of opinion, that the particular parts of an animal body have a principle of life, independent of the effect which ariſes from their union as one ſyſtem. This is exemplified in numberleſs caſes. Thus the muſcles of a turtle continue alive for a great while after the animal, as one whole, is dead.

He alledges, that, in the nature of things, there is not a more intimate connection between life and a ſolid, than between life and a fluid. For, although we be more accuſtomed to connect it with the one than the other, yet the only real difference which can be ſhewn between a ſolid and a fluid is, that the particles of the one are leſs moveable among themſelves than thoſe of the other. Beſides, we often ſee the ſame body fluid in one caſe, and ſolid in another.

That the blood is really alive, Mr Hunter is induced to believe, from the following reaſons:

1*ſt*, It unites living parts, in ſome circumſtances, as certainly, as the yet recent juices of the branch of one tree unite it with that of another.—Were either of theſe fluids to be conſidered as extraneous or dead matters, they would act as * ſtimuli, and no union would take place either in the vegetable or animal kingdom. This argument, Mr Hunter imagines, is ſtill farther eſtabliſhed by the following experiment. Having taken off the teſticle from a living cock, he introduced it into the belly of a living hen. Many weeks afterwards, upon injecting the liver of the hen, he injected the teſticle of the cock, which had come in contact with the liver, and adhered to it.

2dly, The blood becomes vaſcular like other living parts.—Mr Hunter affirms, that, after amputations, the coagula in the extremities of arteries may be injected by injecting theſe arteries. And he has a preparation, in which he thinks he can demonſtrate veſſels riſing from the center of what had been a coagulum of blood, and opening into the ſtream of the circulating blood.

3dly, Blood taken from the arm, in the moſt intenſe cold which the human body can bear, raiſes the thermometer to the ſame height as blood taken in the moſt ſultry heat.—This he conſiders as a ſtrong proof of the blood's being alive; as living bodies alone have the power of reſiſting great degrees both of heat and cold, and of maintaining, in almoſt every ſituation, while in health, that temperature which we diſtinguiſh by the name of *animal heat*.

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* Mr Hunter's opinion of the influence exerted by dead parts of the animal body when they act as ſtimuli to the living ſyſtem, may be underſtood from his doctrine of exfoliation. See our firſt vol. p.425.

4thly, Blood is capable of being acted upon by a ſtimulus.—In proof of this, he obſerves, that it coagulates from expoſure, as certainly as the cavity of the thorax or abdomen inflame from the ſame cauſe. The more it is alive, that is, the more the animal is in health, it coagulates the ſooner on expoſure; and the more it has loſt of its living principle, as in the caſe of violent inflammations, the leſs is it ſenſible to the ſtimulus produced from its being expoſed, and it coagulates the later.

5thly, The blood preſerves life in different parts of the body.—When the nerves going to a part are tied or cut, the part becomes paralytic, and loſes all power of motion; but it does not mortify. If the artery be cut, the part dies, and mortification enſues. What keeps it alive in the firſt caſe? Mr Hunter believes, that it is the living principle which alone can keep it alive; and he thinks that this phaenomenon is inexplicable on any other ſuppoſition, than that life is ſupported by the blood.

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In a former number, we gave an account of the good effects obtained, in ſome parts of America, from the uſe of the couhage, or cow-itch, as an anthelmintic. This plant is alſo a native of the Eaſt-Indies; and the following accurate deſcription of it was lately tranſmitted by Mr James Kerr at Patna, to the Profeſſors of medicine in Edinburgh.

Nomen. By Europeans it is called couhage or cow-itch; by many writers, a phaſeolus; by the natives of Bengal, cadjuct, from the itching and ſcratching it produces.

Claſſis. According to the ſyſtem of the incomparable Linnaeus, it ſtands in his ſeventeenth claſs, Diadelphia, and fourth order, Decandria.

Genus. The flowers of this herbaceous plant, differ very eſſentially from the phaſeolus; they have Linnaeus's diſtinguiſhing mark of a lupinus; but, in other parts of the flower, and habit of the plant, the difference is very conſiderable. From the remarkable comparative length of the alae alone, I imagine it is ſufficiently diſtinguiſhed from every other flower, and probably it deſerves to conſtitute a new genus; but this I leave to the determination of botaniſts.

Radix. The root is fibrous.

Truncus. The ſtem is herbaceous, equal, voluble, climbing, cylindrical, and naked, diverging into many branches, and riſing to a great height, when properly ſupported.

Folia. The leaves are alternate and trilobate, riſing from the ſtem and branches about the diſtance of twelve inches from each other. The foot-ſtalk is cylindrical, from ſix to fourteen inches long. The lateral lobes are obliquely ovate, obtuſe, entire, and nervous, with ſhort petioles, and two very ſmall ſtipulae between the lobes. The middle lobe is ſmaller, ovate, both ends pointed, with the petiole much longer; and two ſmall ſubulated ſtipulae.

Flores. From the axilla of the leaf, deſcends a pendulous ſolitary ſpike, from ſix to fourteen inches long, covered with long blood-coloured papilionaceous flowers, riſing by threes in a double alternate manner, from ſmall fleſhy protuberances, each of which is a ſhort pedunculus of three flowers. The partial foot-ſtalks are ſcarce half an inch long. The flowers upon the apex of the ſpike are firſt in bloom.

Calyx. The involucrum to every three flowers of the ſpike conſiſts of three ſmall, hairy, ciliated, deciduous leaves. The proper empalement is of one bilabiate leaf, with a bellied, gibbous, perſiſting tube. The upper-lip ovate, entire, and preſſed a little backwards by the vexillum. The under-lip is trifid, acute, and more erect.

Corolla.—a. *Vexillum.* The ſtandard is ovate, concave, gently reclinate and emarginate. It is about double the length of the empalement.

b. *Alae.* The wings are of an oblong lanceolated ſhape, double the length of the ſtandard; and both ſides connivent, with ſhort furrowed, nectariferous ungues.

c. *Carina.* The keel is falcate, accuminated, compreſſed, cloſely ſhut, very narrow, and ſcarce longer than the wings, with a curved diſtinct apex.

Stamina. The filaments are diadelphous, nine united, and one ſeparate, equal in length, and diſtinct above. The ſingle filament, and four others, terminate in thick truncated points, having orbicular antherae inſerted into them by very ſhort necks. Alternate with theſe, are five other filaments, much more ſlender, and of a ſubulate ſhape, having oblong and larger antherae. When the flower is in perfection, the filaments extricate themſelves from the keel, by an elaſtic ſpring upwards, and preſs upon the ſtandard.

Nectarium. There is a ſmall tubular nectarium, with ten obtuſe points, incircling the pedicel of the germen.

Piſtillum. The germen is cylindrical, hairy, and almoſt the length of the empalement. The ſtile is filiform, hairy, and as long as the filaments. The ſtigma is globular and ſmall.

Pericarpium. The fruit is a leguminous coriaceous pod, four or five inches long, crooked as the letter *ſ*, and denſely covered with ſharp hairs, which penetrate the ſkin, and cauſe great itching.

Semina. The ſeeds are five or ſix in number, nearly of the ſhape and ſize of a ſmall bean, with the hilum near the middle of the ſeed.

Locus et Qualitas. It will grow in any ſoil; but it is generally eradicated from all cultivated grounds, on account of the hairs from the pods flying with the winds, and tormenting every animal they chance to touch. If it were not for this miſchievous quality, the beautiful ſpikes of red flowers would deſerve a place in the beſt gardens.

Tempus. It flowers in the cool months from September to March, according to the ſituation.

From this accurate deſcription, it appears that the couhage is the Dolichos pruriens of Linnaeus. Mr Kerr has ſaid nothing with regard to its medical virtues. But, in confirmation of Mr Cochrane's account, we ſhall here preſent our readers with the teſtimony given concerning it by Mr Bancroft, in his eſſay on the natural hiſtory of Guiana in South-America, a work publiſhed at London ſome years ago. After mentioning the frequency of diſorders ariſing from worms in that part of the world, and aſſigning ſome reaſons for it, he adds: "But, from whatever cauſe theſe worms are produced, their number is ſo great, that the uſual remedies are very inſufficient for their deſtruction; for which reaſon the planters in general have recourſe to the cow-itch for that purpoſe. From whence its uſe was firſt ſuggeſted, I am uncertain, but its efficacy is indiſputable. The part uſed is the ſetaceous hairy ſubſtance growing on the outſide of the pod, which is ſcraped off, and mixed with common ſyrup or molaſſes, to the conſiſtence of a thin electuary, of which a tea-ſpoonful to a child of two or three years old, and double the quantity to an adult, is given in the morning faſting, and repeated the two ſucceeding mornings; after which a doſe of rhubarb is uſually ſubjoined. This is the empyrical practice of planters, who uſually, once in three or four months, exhibit the cow-itch in this manner to their ſlaves in general, but eſpecially to all their children without diſtinction; and in this manner I have ſeen it given to hundreds, from one year old and upwards, with the moſt happy ſucceſs. The patients, after the ſecond doſe, uſually diſcharged an incredible number of worms, even to the amount of more than twenty at a time, ſo that the ſtools conſiſted of little elſe than theſe animals. But, though theſe were indiſputable proofs of its efficacy, I was far from being convinced of its ſafety. I obſerved, that the ſubſtance given conſiſted of an aſſemblage of ſpiculae exquiſitely fine, and ſo acutely pointed, that, when applied to the ſkin, they excited an intolerable itching, and even inflammation; from whence I apprehended dangerous conſequences from their contact with the coats of the ſtomach and inteſtines. Indeed, when mixed into to an electuary in the manner in which they are given, their elaſticity is ſo impaired, that they do not produce the ſame ſenſible irritation; but yet I could conceive no other quality on which their efficacy depended, eſpecially after I had prepared both a tincture and decoction from the cow-itch, and given them to worm-patients, without any ſenſible advantage. Influenced by theſe ſuggeſtions, I particularly examined the ſtate and condition of all ſuch patients as I knew had taken the cow-itch, and yet can with the greateſt truth declare, that, tho' prejudiced to its diſadvantage, I was never able, either by my own obſervation, or a diligent inquiry, to diſcover a ſingle inſtance of any ill conſequence reſulting from its uſe; which has been ſo extenſive, that ſeveral thouſands muſt have taken it; and as no ill effects have been obſerved, I think not only its efficacy, but ſafety, are ſufficiently evinced to entitle it to general uſe; eſpecially when we reflect on the uncertainty, and even danger, which attends other vermifuges. It is to be obſerved, that this remedy is particularly deſigned againſt the long round worm; whether it is equally deleterious to the aſcarides, or whether it has ever been uſed againſt them, I am uncertain.

* * * *

Upon a former occaſion, we took an opportunity of mentioning the ſucceſs with which Mr Cruikſhank of London had injected the kidneys of the human body. A correſpondent in London has lately tranſmitted to us the following account of what has been done by Mr Hewſon on the ſame ſubject.

Mr Hewſon, in his autumn-courſe of anatomy, in the year 1772, when ſpeaking of the ſtructure of glands, maintained, contrary to Malphighi and his followers, that they were not furniſhed with cryptae or follicles. On injecting the excretory ducts of the breaſt, with a fluid coloured with vermilion, there was indeed an appearance at the end of the ducts ſomewhat like follicles. But, upon injecting theſe ducts with mercury, he found, that what had before appeared uniform round bodies, about the ſize of pin-heads, were ſmall pieces of the gland, with an excretory duct dividing upon them into ſmall branches, reſembling what Ruyſch calls the frenicilli of arteries. For, explaining the deception into which ſome of his ingenious cotemporaries had been led, he obſerved, that, from the ſmallneſs of theſe veſſels, they could not, when injected with vermilion, be diſtinguiſhſtinguiſhed from each other; that, being cluſtered together, they gave the appearance of bags; but that, when injected with mercury, they could readily be diſtinguiſhed from the brightneſs of the fluid. This fact he demonſtrates by means of a preparation. He farther obſerved, that the followers of Malphighi had, in general, produced the kidney to prove the exiſtence of follicles; but he ſhewed in preparations, that the little corpora globoſa, which moſt of the modern anatomiſts term bags or cryptae, are nothing elſe but convoluted arteries, agreeable to what Ruyſch had affirmed. From Ruyſch, however, Mr Hewſon differed in ſome circumſtances. He farther proved, by injections, that there is a ſerpentine veſſel running between the corpora globoſa, and the excretory tubes of the kidney, of which he promiſed to give an account on ſome future occaſion.

* * * * *

A very laudable ſcheme for building, near the city of York, an aſylum for the reception of lunatics, is now in conſiderable forwardneſs. The committee, who have the conduct of that undertaking, have already purchaſed four acres of ground as a ſtance for the building; and they have contracted with maſons, bricklayers, and carpenters, for different parts of the work.

* * * * *

It is with ſingular pleaſure we learn, that Dr Prieſtly continues, with indefatigable zeal, and uncommon ſucceſs, to proſecute inquiries concerning the different kinds of air. He is ſoon to make a ſeparate publication of all his obſervations on that ſubject.

Among many other diſcoveries which he has lately made, he thinks he can prove, that the electric matter is the ſame thing with phlogiſton, only that it is in another ſtate. Theſe different conditions he illuſtrates, by comparing them to fixed air, when in elaſtic air, and when in chalk. He finds, that the electric fluid has the ſame effect on all kinds of air which phlogiſton has; eſpecially, that it makes common air depoſite the fixed air which it contains, and that it renders fixed air immiſcible with water.

By electricity alſo, he converts into inflammable air all kinds of oil, including aether, and likewiſe ſpirit of wine, and volatile ſpirit of ſal. ammoniac.

He finds, that, in all the caſes where common air is diminiſhed, which is never done but by means of phlogiſton, there is a precipitation of fixed air, as may be diſcovered by lime-water. To this, however, the calcination of metals is an exception. There he imagines, that the calx ſeizes the fixed air; and, upon this principle, he accounts for the additional weight of the calx above that of the metal from which it is obtained. He obtains the pureſt fixed air from red lead.

* * * *

We formerly took an opportunity of mentioning ſome obſervations which had been made on the ſtate of population in Mancheſter, by Dr Percival, a gentleman whoſe induſtry extends to every uſeful inquiry in philoſophy as well as medicine. He has lately favoured many of his friends with a paper, intended for the royal ſociety, containing ſome further obſervations on the ſame ſubject. In this paper, among many other curious particulars, we find a table, ſhewing the proportion of inhabitants dying annually in ſeveral different places. This table evidently demonſtrates the pernicious influence of large towns on the lives of mankind. In the town of Liverpool, 1 in 27 die annually; in Mancheſter, 1 in 28; in Eaſtham,

ham, 1 in 35; in Chowbent, 1 in 41; in Cockey, 1 in 44; in Ackworth, 1 in 47; in Royton, 1 in 52; in Darwin, 1 in 56; in Edale, 1 in 59; in Horwich, 1 in 66; in Monton, 1 in 68; and, in Hale, only 1 in 69.

* * * *

Mr de Buffon of Paris is ſoon to favour the world with ſupplements to ſeveral parts of his natural hiſtory already publiſhed, particularly to his theory of the earth, his hiſtory of man, and his mineralogy. On this laſt ſubject, it is ſaid, that he has many important diſcoveries to communicate. To accelerate theſe works, we are informed, that he has diſcontinued his hiſtory of birds, which will be compleated by Mr Guenault.

Dr Hill of London has lately diſtributed propoſals for publiſhing a new edition of the Hortus Malabaricus, which is juſtly eſteemed one of the moſt valuable books in botany. This edition is propoſed to be executed in ſuch a manner, that the plates, numbers, and pages will exactly correſpond with thoſe of the folio edition; ſo that all references to the one will alſo ſuit the other.

A new periodical work in natural hiſtory is propoſed to be publiſhed at Halle in Germany, under the title of Naturae indagator. Every volume will conſiſt of four numbers, one of which will be publiſhed quarterly.

A third edition of Mr Pennant's tour in Scotland in the year 1769 will ſoon appear. It is to be publiſhed in quarto, with twenty-one new plates, and many new articles. His tour in 1772 is likewiſe ſoon expected. It will contain many plates, and will probably afford inſtruction and entertainment to every ſincere lover of natural hiſtory.

The royal academy of ſciences at Montpellier have propoſed the three following queſtions as the ſubjects of their prize diſſertations for the year 1774.

1. Determiner les differens titres ou degrés de ſpirituoſité des eaux de vie, ou eſprits de vin, par un moyen ſimple, et applicable au commerce?

2. Quels ſont characteres principaux des terres en general, et les moyens de remedier aux defauts de celles, qui ſont peu propres a la productions des grains?

3. Quelle eſt l'influence des meteores ſur la végétation, et quelle conſequence pratique peut on tirer relativement a cet object, des differentes obſervations meteorologiques faites juſqu' ici?

Diſſertations on theſe ſubjects muſt be tranſmitted, before the 1ſt of October 1774, to Mr de Ratte, who is perpetual ſecretary to the ſociety.

* * * * *

Dr Chriſtian Gottlieb Ludwig, profeſſor of the practice of medicine at Leipſic, died there on the 7th of May 1773. He was deſervedly eminent for his many valuable medical writings. And he had the merit of having firſt planned, and afterwards conducted, for more than twenty years, Commentarii de rebus in ſcientia naturali et medicina geſtis; a work too well known to ſtand in need of any encomium.

Dr George Matthie, one of the profeſſors of medicine at Gottingen, died there on the 9th of May 1773. And, at the ſame place, on the 28th of May, died Dr George Gotlieb Richter, archiater to his Britannic Majeſty, and primarius profeſſor of medicine at Gottingen.

Dr Nicolas Roſeen de Roſenſtein, archiater to his Swediſh Majeſty, died at Upſal on the 16th of July 1773.

On the 26th of July died at Paris, Mr Morand, a juſtly celebrated ſurgeon in that city, and a member of moſt of the noted academies in France.

On the 30th of December 1773, Mr William Anderſon was admitted a member of the college of ſurgeons in Edinburgh.

At a meeting of the royal college of phyſicians in Edinburgh, on the 1ſt of February 1774, Dr Robert Hamilton of Lynn Regis, was elected a fellow. And, at the ſame meeting, Dr Edward Spry of Tottneſs, and Dr James Hunter of Edinburgh, were admitted licentiates of the college.

On the 9th of March 1774, Mr John Robertſon, who has for ſome years been engaged in an academy eſtabliſhed by the Empreſs of Ruſſia at Cronſtadt, was unanimouſly elected profeſſor of natural philoſophy in the univerſity of Edinburgh, in the room of the late Mr Ruſſel.

SECT. IV.

Liſt of New Books.

NOUVEAUX memoires de l'académie royale des ſciences et belles lettres. Année 1771. Avec l'hiſtoire pour la même année. 4to, Berlin.

The ſeaman's medical inſtructor. By N. D. Falk, M. D. 8vo, London.

The chemical works of Caſpar Newman, M. D. profeſſor of Chemiſtry at Berlin, F. R. S. &c. abridged and methodized, with large additions, containing the later diſcoveries and improvements made in chemiſtry, and the arts depending thereon. By William Lewis, M. B. F. R. S. The ſecond edition, 2 vols 8vo, London.

Medical and chirurgical obſervations, as an appendix to a former publication. By Benjamin Gooch, ſurgeon. 8vo, London.

Advice to people afflicted with the gout. By J. Williams, M. D. 8vo, London.

Pharmacopoeia officinalis extemporanea; or, a compleat Engliſh diſpenſatory. In two parts, theoretical and practical. By John Quincy, M. D. The fourteenth edition. 8vo, London.

Inſtitutions of entomology; being a tranſlation of Linnaeus's ordines et genera inſectorum; or, ſyſtematic arrangement of inſects; collated with the different ſyſtems of Geoffroy, Schaeffer, and Scopoli, together with obſervations of the tranſlator. By Thomas Pattinſon Yeats. 8vo, London.

Remarks on certain paſſages contained in a ſcurrilous pamphlet, publiſhed by Henry Saffory. By John Burrows, M. D. 8vo, London.

The friendly phyſician. By F. Spilſbury chymiſt. 8vo, London.

An eſſay towards the natural hiſtory of the county of Dublin, accommodated to the noble deſigns of the Dublin ſociety. By John Rutty, M. D. 2 vols. 8vo, Dublin.

An eſſay in favour of ſuch public remedies as are uſually diſtinguiſhed by the name of *Quack-medicines*, by a country-gentleman, formerly a practitioner in the ſcience of phyſick. 8vo, London.

A

A treatiſe on the origin of diſeaſes, and the uſe of the Halen eſſence. By F. Ryſſeeg, and I. U. L. 8vo, London.

A lecture introductory to the theory and practice of midwifery; publicly delivered the 4th of October 1773, by John Leake, M. D. member of the royal college of phyſicians London, and phyſician to the Weſtminſter lying-in-hoſpital. 4to, London.

Memoire ſur l'uſage ou l'on eſt d'enterrer les morts dans l'enceinte des villes. Par M. Maret, docteur en medicine de la faculté de Montpellier. 8vo, Dijon.

Index plantarum horti et agri Jenenſis. Auctore J. Baldinger. 8vo. Jena.

Neue und verbeſſerte beſchreibung, &c.; i. e. A new and improved deſcription of the hot and cold mineral waters of Ems. By Charles Philip Bruckmann, phyſician to the Landgrave of Heſſe-Darmſtadt. 8vo, Francfort.

Catalogue ſyſtématique et raiſonné d'une ſuperbe collection d'objets des trois regnes de la nature. Conſiſtant en animaux a mamelons, oiſeaux, amphibies, poiſſons, inſectes, coquillages, litophytes, et zoophytes, plantes, fruits, et minéraux. 8vo, Amſterdam.

Chriſtoph. And. Mangoldi Opuſcula medico-phyſica, edidit E. G. Baldinger. 8vo, Altenburgi.

Memoires et obſervations ſur les effets des eaux de Bourbonne-les-Bains, en Champagne, dans le maladies hiſteriques et chroniques. Par M. Chevalier, M. D. a Bourbonne-les-Bains. 12mo, Paris.

A diſcourſe on the different kinds of air, delivered at the anniverſary meeting of the royal ſociety November 30. 1773. By Sir John Pringle, Bart. preſident, publiſhed at their requeſt. 4to, London.

An examination of Mr Henry's ſtrictures on Glaſs's magneſia. By Thomas Glaſs, M. D. 8vo, London.

Obſervations and experiments on the poiſon of lead. By Thomas Percival, M. D. F. R. S. et S. A. 8vo, London.

An eaſy way to prolong life, by a little attention to our manner of living; containing many ſalutary obſervations on exerciſe, reſt, ſleep, evacuations,

cuations, &c. The ſecond part. By a medical gentleman, author of the firſt part. 8vo, London.

Four introductory lectures in natural philoſophy: 1. Of the rules of philoſophiſing, the eſſential properties of matter and laws of motion. 2. Of the ſeveral kinds of attraction, and particularly of coheſion. 3. Of gravity, or the attraction of gravitation. 4. The laws of motion explained, and confirmed by experiments. 12mo, Dublin.

Inſtant relief to the aſthmatic, with the places of ſale of the remedy. 12mo, London.

Animadverſions on a late treatiſe on the kinkcough; to which is annexed an eſſay on that diſorder.

Pharmacopoea Palatina, ſive diſpenſatorium medico-pharmaceuticum, in lucem emiſſum ex conſilio medico Electorali Palatino. 4to, Manhemii.

S. S. Beddei diſſertatio de verme taenia dicto. 8vo, Viennae.

R. F. C. Rumpel Pr. de cantharidibus earumque tam interno quam externo in medicina uſu. 4to, Erfordiae.

J. E. Schenk Van Reekow diſſertatio de pleuritide. 4to, Groningae.

Traité des maladies chirurgicales et des operations qui leur conviennent, ouvrage poſthume de M. I. L. Petit de l'académie royale des ſciences, &c. Mis au jour par M. Leſne, ancien prevot du college, et conſeiller du comité de l'académie royale de chirurgie. 3 vols. 8vo, Paris.

Opuſcules phyſiques et chimiques. Par M. Lavoiſier, de l'académie royale des ſciences. Tom. 1. 8vo, Paris.

Sketches of the hiſtory of man, in two volumes 4to, Edinburgh.

The vegetable ſyſtem; or the internal ſtructure and life of plants, their parts and nouriſhment explained; their claſſes, orders, genera, and ſpecies aſcertained and deſcribed in a method altogether new, comprehending an artificial index, and a natural ſyſtem, with figures of all the plants, deſigned and engraved by the author. The whole from nature only. By John Hill, M. D. member of the Imperial Academy, &c. Vol. xxiii. containing plants of ſix petaled irregular flowers, and thoſe with incompleat flowers of one petal. Folio, London.

The journal of a voyage, undertaken by order of his preſent Majeſty, for making diſcoveries towards the north pole. By the Hon. Commodore Phipps and Captain Lutwidge, in his Majeſty's ſloops Racehorſe and Carcaſe. 8vo, London.

An inquiry into the moving powers employed in the circulation of the blood; in a lecture delivered at Newcaſtle the 28th of December 1773, to a large company of gentlemen of the faculty and others. By Andrew Wilſon, M. D. fellow of the royal college of phyſicians at Edinburgh. 8vo, London.

A letter to Dr Glaſs, containing a reply to his examination of Mr Henry's ſtrictures on the magneſia, ſold under the name of the late Mr Glaſs; to which are added ſome further teſtimonies in ſupport of the truth of theſe ſtrictures. By Thomas Henry apothecary. 8vo, London.

Domeſtic medicine. By William Buchan, M. D. fellow of the royal college of phyſicians Edinburgh. The third edition, with conſiderable additions. 8vo, London.

THE END.

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MEDICAL

AND

PHILOSOPHICAL

COMMENTARIES.

By a SOCIETY in EDINBURGH.

> Prudence will make us deſire fame, becauſe it gives us many real and great advantages in all the affairs of life. Fame is the wiſe man's means; his ends are his own good, and the good of ſociety.
>
> BOLINGBROKE.

VOLUME SECOND.

PART III.

LONDON:

Printed for J. MURRAY, No. 32. Fleet-ſtreet;
W. CREECH, Succeſſor to Mr KINCAID, and
W. DRUMMOND, *Edinburgh*; and T. EWING,
Capel-ſtreet, *Dublin*.

M,DCC,LXXIV.

MEDICAL

COMMENTARIES.

SECT. I.

An Account of Books.

I.

Diſſertation ſur la Fiévre Miliaire ; Ouvrage qui a obtenu l' Acceſſit *du Prix de l'Académie des Sciences, Beaux Arts, et Belles Lettres a' Amiens, le 25 Août 1770. Par* M. Planchon, *Medecin a Tournai*, 8vo, Tournai.

THE author introduces this diſſertation with ſome quotations from Hippocrates, Ætius, and others, to prove that the miliary fever was known to the antients. He next relates the queſtions, propoſed on this ſubject, by the academy of Amiens. Theſe are, *1mo*, A deſcription of the miliary fever, the order and progreſs of thoſe ſymptoms which point it out, and which accompany it through its different periods.

2dly, The diſtinction of the ſpecies of this fever, whether primary or ſymptomatic, mild or malignant, ſimple or complicated.

3dly, The nature and eſſence of the morbific cauſe of the miliary fever. Is it inflammatory or putrid? What analogies or differences may be pointed out between it and other exanthematic diſeaſes?

4thly, Is the miliary eruption a criſis, or purification of the maſs of blood which nature thus frees from ſome extraneous miaſmata? Or, according to the celebrated De Haen, is the eruption only a factitious ſymptom, introduced by hot regimen?

5thly, What is the proper method of cure? Should we wait for the eruption, and favour its appearance? Or ſhould we, with De Haen, endeavour to prevent it? If ſo, by what means is it to be effected?

6thly, What diſeaſes or complaints does the miliary fever leave behind it? And what are the means to be employed for preventing and curing them?

Our author, dividing his diſſertation into as many articles as there are propoſitions here laid down, proceeds to treat of each in order. Having delivered the hiſtory, which will not admit of an abbreviation, he goes on to the ſecond queſtion. In anſwer to this, he firſt points out the particular ſymptoms which indicate the mildneſs of this diſeaſe, when it is conſidered as a primary affection. In this caſe, he obſerves that the horror and laſſitude are ſuch only as precede an ephemera; that the pulſe is natural, and all the other ſymptoms moderate and without any delirium; and that, on the 7th, 9th, 11th, 14th, 17th, 20th, or 21ſt day, it is terminated by a copious ſweat. Moſt frequently, however, this ſpecies is terminated on the 14th day.

The malignant ſpecies frequently comes on in a mild form, but in its progreſs great weakneſs, uneaſineſs, and internal heat ſupervene; theſe are accompanied with deep reſpiration, ſighing, conſtant anxiety, and diſturbed ſleep. After this, the eruption appears; every thing then ſeems to go on well; ſoon, however, the weakneſs again increaſes to a great degree, and is attended with ſubſultus tendinum, convulſions, low delirium, lethargy, and frequent faintings. When theſe laſt ſymptoms come on, the eruption diſappears, and the patient has ſeldom above four hours to live. In ſome caſes of the miliary fever, all theſe bad ſymptoms occur, even from the beginning, without any favourable appearances.

Dr Planchon next obſerves, that the miliary eruption is not always a primary diſeaſe, but that it is frequently a conſequence of ſmall-pox, of meaſles, of putrid, ardent, and malignant fevers, of inflammation of the womb, and of the gangrenous ſore throat. It is ſaid alſo to be ſymptomatic of an extreme rarefaction of the blood, and of plethora attended with much heat. Our author agrees with Hoffman in attributing it to intemperance, whether in diet or venery, and to conſtipation during other diſeaſes; but he diſſents from Hoffman's aſſertion, that it may likewiſe ariſe from the uſe of refrigerants; for he contends that experience has ſhewn them to poſſeſs a very oppoſite property. Mr Planchon's next obſervation is, that the miliary eruption, when ſymptomatic, is attended with the ſame appearances, as when it is a primary diſeaſe. He then mentions another ſpecies of miliary fever, which is at firſt intermittent, and, unleſs particular attention be beſtowed, is apt to become chronic. This ſpecies, he obſerves, is always attended with a red eruption. Upon theſe differences, in the ſpecies of miliary fever, a few obſervations which he offers on the prognoſis are entirely founded.

When treating of the third queſtion, Dr Planchon contends, that a conſideration of the habits particularly diſpoſed to miliary fever, and of the cauſes and ſymptoms of that diſeaſe, will not allow us to ſuppoſe that the morbific matter is of an inflammatory nature. On the contrary, he imagines that the moſt common cauſe of miliary fever is obſtructed perſpiration, which, being retained in the maſs of blood, renders the ſerous and lymphatic part of it putrid and cauſtic. By this means, a fever is induced which throws part of the vitiated fluids upon the ſkin, but ſtill leaves a part in the circulating maſs, ſufficient to ſupport the fever during the whole courſe of the diſeaſe. By the time that the fever is brought to a period, it is either corrected by medicines, or expelled by the other excretories of the body. In proof of this, we are told, that ſeveral of the ſecreted fluids are rendered remarkably acrimonious, particularly that the bile is often highly corrupted.

The circumſtances influencing this eruption in ſuch a manner, as to make it either red or white, are ſuppoſed by Dr Planchon to depend entirely on the conſtitution of the patient. The red eruption, he obſerves, attacks thoſe who have abundance of impure blood, ſuch as people labouring under a ſuppreſſion of the menſes or haemorrhoides, ſcorbutic patients, wine drinkers, and thoſe who have led an inactive life. On the contrary, the white eruption, he maintains, attacks thoſe whoſe blood is vitiated by bad ſeroſity, ſuch as relaxed or cachectic habits of all kinds; and, with theſe, the diſeaſe, he affirms is of a more putrid nature than when the eruption is of a red colour.

With reſpect to the analogy between this and other exanthemata, Dr Planchon obſerves, that, in point of malignity, it is not unlike to the confluent, chryſtalline, and gangrenous ſmall-pox, to meaſles of a bad character, to the gangrenous ſore throat, and to eryſipelas. Nor has it leſs analogy to theſe eruptions in the anxiety, oppreſſion, ſighing, and particular kind of reſpiration, with which it is accompanied. But the diſeaſe to which it has the greateſt reſemblance, is a fever with bliſters, mentioned by Sauvages. From this, however, it may be diſtinguiſhed by the largeneſs of the puſtules which attend the latter diſeaſe. From moſt others, it may, in general, be known by an acquaintance with the prevailing epidemic. From the ſmall-pox, and meaſles in particular, it differs in the appearance of the eruption; for, in theſe diſeaſes, the eruption appears at a particular day, but, in the miliary fever, no fixed day is obſerved. From the red eruption of the gangrenous ſore throat, it differs too in continuing frequently till the 14th day; whereas, in the ſore throat, the eruption ſeldom remains beyond the fifth.

To the fourth queſtion, Mr Planchon anſwers, that the bad ſymptoms which follow the retropulſion of the miliary eruption, and the favourable circumſtances which always ſucceed its appearance on the ſkin, abundantly prove it to be a criſis, or putrefaction of the maſs of blood. He maintains, therefore, in oppoſition to the opinion of Dr De Haen, that it is not to be conſidered as a factitious ſymptom induced by hot regimen. On the contrary, he affirms, that patients whom he has ſeen labouring under this diſeaſe had not only avoided the hot regimen, but had uſed refrigerants to a conſiderable extent. In confirmation of this opinion, he cites the authority of Dr Stork, who practiſes medicine in the ſame city with Dr De Haen. On this ſubject, however, he acknowledges that cordials, and hot regimen, will greatly augment the diſeaſe.

With regard to the cure of miliary fever, which is the ſubject of the 5th queſtion, Dr Planchon obſerves, that it cannot be general, but that it muſt be varied according to the age, temperament, ſex, and ſymptoms of the patient. He adviſes that bleeding be uſed with people of a ſanguine temperament, with thoſe who are plethoric and ſtrong, who have a full, hard, tenſe, pulſe, who have ſtrong ſymptoms of fever and inflammation in the beginning of the diſeaſe, or who labour under ſuppreſſed evacuations of blood, and he recommends it in all caſes, where there is no eruption. On the other hand, great weakneſs, with a ſmall frequent pulſe, continual ſpontaneous ſtools, and a free diſcharge of the lochia in women, immediately after delivery, are circumſtances which, he imagines, if they do not entirely forbid the uſe of the lancet, ſhould lead us to employ it with great caution.

The neceſſity of evacuating the primae viae, in this diſeaſe, is pointed out by the nauſea, vomiting, bitter taſte in the mouth, furred tongue, foetid breath, and nidorous belchings, which occur in the beginning of this fever. With a view of producing this evacuation, Dr Planchon recommends an antimonial vomit. But, if the ſymptoms mentioned above do not occur at the beginning of the diſeaſe, he thinks it will be proper, in the firſt place, to order ſome digeſtive ſalts, with a view of giving a proper mobility to the crudities in the alimentary canal, and in that manner preparing for the exhibition of an emetic on the third or fourth day of the diſeaſe. This, he obſerves, in general, proves the moſt ſucceſsful practice.

If, after the adminiſtration of an emetic, the crudities of the primae viae continue, with borborygmi, weight, and ſwelling at the region of the ſtomach, he is of opinion that an antiphlogiſtic purgative may be given, without any fear of retarding the eruption. He thinks that theſe ſymptoms require purging, even after the appearance of the eruption, eſpecially if the patient have an irregular intermittent pulſe, which, he apprehends, indicates an accumulation of bile, either in the hepatic ſyſtem, or primae viae. The uſe of the purgative, he conſiders to be contra-indicated, in thoſe caſes only, where an alleviation of the ſymptoms has taken place in conſequence of the eruption, or of ſweating.

Beſides theſe remedies, he recommends diluents to ſupply the diſcharge by ſweating; demulcents to blunt acrimony; refrigerants, ſuch as acids and aſceſſents, to moderate heat; diaphoretics to aſſiſt determination to the ſkin; anodynes to calm the agitation of the nervous ſyſtem; and cordials, the chief of which are wine, camphor, and contrayerva, to ſupport the ſtrength of the patient, particularly in the malignant ſpecies of the diſeaſe. But, above all, he recommends camphor, which he conſiders almoſt as a ſpecific, in the circumſtance laſt mentioned. In caſe of a retropulſion of the eruption, camphor, opium, and bliſters, are the moſt ſucceſsful means of bringing it back.

When the fever is of a very malignant nature, and attended with great marks of putridity in the fluids, and debility in the ſolids, our author adviſes that Peruvian bark ſhould be preſcribed, which he thinks acts powerfully as an antiſeptic, by reſtoring fixed air to the blood. He farther recommends, that the patient ſhould be kept in a moderate degree of heat, that his linen ſhould be frequently changed, and the air of his room often renewed and corrected by aromatics and vinegar. Diuretics, he imagines, may be uſed with advantage in all caſes of the miliary fever, but particularly when it attacks women in child-bed. When this diſeaſe depends upon a ſuperabundance and rarefaction of the blood, in conſequence of ſummer-heats, and the abuſe of ſpirituous liquors and cordials, he imagines that it ſhould be treated in the manner recommended by Dr De Haen, by bleeding, antiphlogiſtic evacuants, and refrigerants.

Under the laſt head of inquiry, which reſpects thoſe complaints which the miliary fever leaves behind it, our author obſerves, that the debility ſucceeding it ſhould be obviated by wine and Peruvian bark. If there be a diſpoſition to relapſe, he adviſes the uſe of purgatives, in order to evacuate the morbific matter; and with the ſame view he thinks that cauteries may alſo be applied. He recommends demulcents for obviating acrimony, and the Peruvian bark and ſteel, for ſupporting the nervous ſyſtem. Dropſical complaints, ſuch as aſcites, but more frequently anaſarca of the legs, ſometimes ſucceed miliary fever, which, according to our author, proceed from a congeſtion of morbific matter in the part affected. With a view of removing theſe complaints, he preſcribes purgatives, a nutritive diet, ſuch a regimen as determines to the ſurface, diuretics, and tonics. If hectic ſymptoms ſupervene, the remedies which he eſteems moſt proper, are bitters, ſpaw-water, and milk-diet. When colic with conſtipation occurs, laxatives are required; and, if the pains be violent, opium will be neceſſary. For the dryneſs of the ſkin, which frequently ſucceeds miliary fever, the warm bath, we are told, is the moſt proper remedy. The night-ſweats are beſt counteracted by wine, Peruvian bark, and ſtomachic martial powders, with bitter purging ſalts to open the belly, as occaſion may require. Theſe ſtomachic powders are alſo, the author affirms, very advantageous for counteracting that tendency to watchfulneſs, which often diſturbs convaleſcents from this diſeaſe; but, if they ſhould fail in producing this effect, it becomes neceſſary to have recourſe to opium.

II.

Obſervations and Experiments on the Poiſon of Lead, by Thomas Percival, *M. D. Fellow of the Royal Society, and of the Society of Antiquaries in London.* 12mo, London.

MUCH has, of late, been written on the ſubject of lead, both as curing and inducing diſeaſes. Its influence in the latter of theſe ways is the ſubject of the treatiſe now before us. The induſtrious author begins with the enumeration of many facts which ſhew that the deleterious powers of lead are not confined to the human ſpecies, but are equally exerted on quadrupeds and birds. From theſe hiſtories, it appears, that this metallic ſubſtance has proved poiſonous to hounds, cats, linnets, geeſe, ducks, and other poultry.

It is a queſtion of great importance in the practice of phyſic, whether the colica pictonum be ever induced in the human ſpecies from the external application of lead? Mr Goulard, and Mr Aikin contend, that this does not happen; and their opinion is greatly corroborated by the experience of the medical faculty, who employed ſaturnine lotions, with above fifty patients, who ſuffered from an accidental exploſion of gun-powder at Cheſter. But, notwithſtanding theſe facts, Dr Percival is ſtill inclined to be of the opinion of Dr Baker, that lead, externally applied, will ſometimes produce its ſpecific effects upon the body. And, in ſupport of the probability of this aſſertion, he relates the caſes of ſeveral patients, in whom convulſive and paralytic ſymptoms ſupervened, after the external uſe of lead.

In the ſecond ſection, the author relates many particulars reſpecting the cauſe and cure of the colica pictonum. From a great variety of facts, it appears, that it is brought on in men, birds, quadrupeds, and probably even in fiſhes, from the introduction of lead into the alimentary canal. When the diſeaſe is recent, the cure is in general attempted by emetics and gentle purgatives. In more advanced ſtages of the diſeaſe, theſe purgatives are frequently repeated, and oily clyſters thrown up. Of late, the oleum ricini has been uſed with great ſucceſs. The advantage to be obtained from theſe remedies has already been confirmed by experience.

perience. But our author here recommends the trial of another, which, he imagines, will be very effectual, both as a prophylactic for the diſeaſe in general, and as a cure for ſlighter caſes. That is the uſe of alum. This practice, he ſuggeſts, from having adminiſtred it with the moſt happy effect in various obſtinate affections of the bowels. It was then given to the quantity of fifteen grains every fourth, fifth, or ſixth hour; and the third doſe ſeldom failed to mitigate the pain, ſometimes entirely to remove it.

In the third ſection, Dr Percival proceeds to determine, by experiment, ſeveral important queſtions, relating to the poiſon of lead. As water, impregnated with fixed air, acts as a menſtruum both to calcareous earth and iron, the author ſuſpected that it might exert the ſame property on lead. But, after endeavouring to produce ſuch an impregnation, he could diſcover no mark of the preſence of lead, by the addition of volatile tincture of ſulphur, which is a very nice teſt of it. From the ſame teſt alſo, he could find no mark of the preſence of lead in water impregnated with alum, which had been uſed as a menſtruum for it. Notwithſtanding this, however, he does not ſeem to be ſatisfied of the ſafety of keeping hard water in leaden veſſels, and particularly of uſing leaden pumps in wells of this kind of water, as in theſe there muſt be conſiderable friction.

Suſpecting that Burſlem pottery, commonly known by the name of Queen's ware, might receive its beautiful poliſh from a preparation of lead, he tried to determine this by experiment. Upon trial, he found reaſon to ſuſpect that lead is an ingredient in Queen's ware; but it ſeemed to be diſſolved by the vegetable acid, in a quantity ſo inconſiderable as to afford no objection to the uſe of that ware. He concludes, however, that veſſels of it are improper for preſerving acid fruits and pickles.

His next experiments were made with a view to determine the effects of white lead uſed as a paint. He found that it produced a remarkable diminution of the air, and rendered it capable of extinguiſhing flame and killing animals. This air, however, was rendered wholeſome by agitation with water. Hence, he infers the propriety of placing veſſels of water in rooms lately painted. He thinks, however, that ſprinkling water through theſe rooms, by means of a garden-pot, would be ſtill more effectual.

He found that ſlips of oil-caſe, in the compoſition of which lead always enters, produced the ſame effect upon air as white-lead paint. And, as a further confirmation of this, he obſerves, that he has often found himſelf diſagreeably affected from the uſe of an oil-caſe hood.

As common ſealing waffers are often coloured with red lead in place of vermilion, he cautions againſt their being ſwallowed, which is ſometimes a practice with children.

To theſe experiments is ſubjoined an appendix, containing three letters. The firſt from Dr Haggarth of Cheſter, affords a ſtriking proof of the good effects of Goulard's ſaturnine water, againſt burns and contuſions. The ſecond is from Dr Rotheram at Newcaſtle, who, while he practiſed at Hexham, was frequently conſulted for the workmen employed in the lead-mines, ſmelting-mills, and refineries, in that neighbourhood. Dr Rotheram is of opinion that lead is highly poiſonous, when its particles are ſo divided by heat, corroſion, or ſolution, as to enter the pores or abſorbents of any part of the human body; but more particularly thoſe of the lungs and ſtomach.

The third letter is from Dr John Carte to Dr Grew, and is dated at Mancheſter 27th of October 1678. This letter is extracted from Dr Hooke's philoſophical experiments, publiſhed by Mr Derham. It gives a deſcription of the Belland, a diſeaſe very common in Derbyſhire among thoſe who are employed in the lead ſmelting mills. This diſeaſe Dr Carte aſcribes to the fumes of lead; but imagines that it is owing to a mixture of mercury in the ore From this letter it appears, that theſe fumes are hurtful to other animals, as well as to men; and alſo, that they are injurious to vegetables. This treatiſe is concluded with a poſtſcript occaſioned by directions given in ſome modern books in cookery for recovering wine when ſour, and preventing it from becoming ſo, by means of ceruſſe and of melted lead. Theſe practices Dr Percival conſiders as having a moſt dangerous tendency.

II.

Richardi Mead Monita et Praecepta Medica permultis Notationibus et Obſervationibus illuſtrata. Auctore Clifton Wintringham, *M. D. C. M. L. et R. S. Socio, Equite Aurato, et Medico Regio, olim et Valetudinarii proviſi in uſum Britannorum, apud exteras gentes bella gerentium, Medico et Praefecto.* 2 Tom. 8vo, London.

IN the notes and appendix ſubjoined to this edition of Dr Mead's Monita et Praecepta medica, Sir Clifton Wintringham delivers obſervations, drawn from his own experience, concerning the diſeaſes treated of in the text. Without giving any analyſis of Dr Mead's work, which has long been in the hands of every body, we ſhall here preſent our readers with ſuch of Sir Clifton's obſervations, as appear to us to be the moſt intereſting.

Concerning the ſolution of fevers, he obſerves, that no author has yet given any certain mark, by which we may know when or by what means a ſever is to be carried off. He affirms, we may be certain, that nature is endeavouring to effect ſome evacuation, if, at any period of a fever, without an evident cauſe, there ſuddenly enſues more full reſpiration, greater quickneſs and ſtrength in the pulſe, and a ſenſe of tenſion in the hypochondria. What kind of evacuation is to enſue will be indicated by weight, pain, or itching, with heat in the part from whence it is to proceed. He adds, that although other evacuations may attend a criſis; yet it is ſeldom perfect without the aſſiſtance of a ſweat diffuſed over the whole body, and attended with a ſtrong and equal pulſe.

Pleuriſy, our author obſerves, principally attacks young people, and chiefly in the ſpring and winter. It may be produced by every thing which impells the blood, with greater force, or in a greater quantity than uſual, into the arteries of the pleura, membranes of the ribs, or intercoſtal muſcles, and by every thing which diminiſhes the capacity of theſe veſſels. The cure is to be truſted to bleeding, which our author directs to be performed firſt in the arm, in order to diminiſh the general quantity of the blood; and afterwards in the foot, by way of revulſion.

When treating of intermittents, he denies that a lateritious ſediment in the urine is a diagnoſtic mark of them, as he has often obſerved the ſame appearance in ſeveral other diſeaſes. He cautions againſt confounding, with intermittents, thoſe inflammatory or ſcorbutic pains, which are generally aggravated every night. They are to be diſtinguiſhed, he obſerves, by the want of that horror, yawning, ſtretching, and cold, which generally induce an intermittent paroxyſm. All anomalous intermittents, he obſerves, are to be treated as the ſymptoms which they put on may require, till they be reduced to ſome regular type; they may then be cured by the Peruvian bark. But if, from frequent attacks of the fever, the patient's ſtrength has been much exhauſted, it will be neceſſary to add to the Peruvian bark, ſome ſteel with bitter aromatic or diuretic herbs, as being the moſt effectual method of preventing a relapſe.

Concerning ſlow hectic fevers, Sir Clifton Wintringham obſerves, that they may be referred to three cauſes: 1*ſt*, Circumſtances obſtructing the paſſage of blood through the lungs. 2*d*, Acrimony. 3*d*, Inanition. He recommends balſamics, with a view to promote expectoration; but in the morning only. With the ſame intention alſo, he adviſes the ſteam of warm water, of warm vinegar, or of ſquill vinegar.

The author thinks it of importance to point out the marks by which it may be known, whether epilepſy proceeds from a diſeaſe of the brain itſelf, or of ſome diſtant part of the body. In the idiopathic kind of epilepſy, he obſerves, that the head is always affected with heavineſs, pain, heat, giddineſs, ſparkling of the eyes, and ſuch ſimilar ſymptoms. In this caſe, evacuation, regulated by the ſtrength of the patient, is the principal remedy. In the ſymptomatic epilepſy, on the other hand, the affections of the head are ſeldom obſerved, and ſome other morbid affection is in general obvious; the removal of which carries off the epilepſy.

Beſides theſe, the author obſerves, that there is another ſpecies of epilepſy, ariſing from a native debility of the nerves, and attacking tender girls and delicate women on the ſlighteſt agitation of mind. To ſuch patients, he recommends bitters, ſteel, and exerciſe; and, if they have any hectic tendency, he adviſes that aſſes milk ſhould be given them two or three times every day.

He obſerves, that it is particularly neceſſary, in the cure of madneſs, to attend to its cauſe. He adds, that the following compoſition given every fourth hour, ſo as to ſupport a conſtant nauſea, and gently looſen the belly, has proved remarkably ſerviceable. ℞ Rad. Hellebori nigri, Tartar. ſolub. ana ʒii. Fol. ſenae ℥ſs. Decoque cum aquae pur ℔i. ad colatur ℥x. Dein. add. Oxymel ſcillit. ʒiii. Syrup e ſpin. cervin. ʒvi. M.

Camphor, when given to the quantity of half a dram in the evening, he has found uſeful in leſſening madneſs, procuring ſleep, and bringing on a ſweat. He alſo uſes bleeding, gentle laxatives, and the warm bath. But he cautions againſt the uſe of opium, if given before the violence of the diſeaſe has been diminiſhed by evacuations.

The author divides angina into three ſpecies, the watery, the inflammatory, and the contagious. In the inflammatory, he cautions againſt throwing gargles violently about the mouth; he would have them taken warm, and kept quietly in the mouth, that the vapours which ariſe may moiſten the fauces. In the contagious angina, if there be pain in the head, and fluſhing in the face, the author adviſes to begin with bleeding and purging, although

though the ſtate of the pulſe may not ſeem to require theſe evacuations. He adds, that, if the ſkin be hot and dry, the pulſe quick and hard, the Peruvian bark will be highly pernicious, and that it ſhould not be given till the diſeaſe has remitted, or rather is going off. When the face and eyes are pale, when there is ſickneſs of ſtomach, or a diſpoſition to faint, with a quick weak pulſe, bleeding and purging are to be avoided, a vomit is to be given, and, afterwards, cordials and anodynes, endeavouring, at the ſame time, to keep the fauces as clean as poſſible by means of gargles. Mild clyſters muſt be injected during the whole diſeaſe; but care muſt be taken that a diarrhoea be not induced, as the patient's ſtrength will be unable to bear it.

Another kind of angina contagioſa is mentioned by our author, in which the affections of the throat do not appear at firſt, but are the conſequence only of a putrid fever. It is to be cured in a manner very ſimilar to the former.

Our author does not agree with Dr Mead, in ſuppoſing that a country-life induces aſthma with ſome people, by increaſing the ſenſibility of the lungs. He aſcribes it to the air being more denſe in the country than towns. In conſequence of this, it occaſions a greater mechanical preſſure on the veſſels of the lungs, ſo that a greater congeſtion of fluids takes place in them than is conſiſtent with free reſpiration. The cauſes of aſthma, he aſcribes, either to the veſſels of the lungs, to the fluids paſſing through theſe veſſels, or to a reſolution or diſtention of certain parts and nerves which aſſiſt in reſpiration.

Sir Clifton Wintringham is of opinion, that Dr Sydenham erred in attributing the cholera morbus to ſummer fruits, and in reſtricting the period of its attack to the month of Auguſt. He affirms, that he has obſerved it in all ſeaſons of the year, and even in people who have lived almoſt ſolely upon fleſh. He does not deny, indeed, that it appears moſt frequently in Auguſt and September. But this he aſcribes to the great differences in point of heat, at different times of the day, during that ſeaſon, by which, matters which ought to have been diſcharged by the ſkin, are thrown back upon the ſtomach and inteſtines, and produce cholera. The cure which our author recommends, conſiſts in bleeding, and large draughts of chicken broth or barley-water, with clyſters of the ſame, and anodynes, carefully avoiding every thing acrid.

In dyſentery, the author objects to the frequent uſe of emetics, and propoſes to cure the diſeaſe by bleeding, accommodated to the ſtrength of the patient, emollient and oily clyſters, mild cathartics, and anodynes. To prevent a relapſe, he recommends aſtringents, bitters, aromatics, and balſamics; and, during the uſe of theſe remedies, he adviſes now and then a cathartic, followed by an anodyne.

When treating of ileus, he gives his teſtimony in favour of the good effects of tobacco-ſmoke injected into the inteſtines. He mentions alſo the following as a method which he has often found ſucceſsful in removing the conſtipation attending that diſeaſe. He firſt orders an injection containing three ounces of antimonial wine, and then directs the following liniment to be rubbed upon the lower part of the belly, particularly about the navel: ℞ Medull. Colocynth. ʒi. Ol. olivar, ℥i. M. et coque leni igne, donec medulla criſpari videatur; dein, maſſa adhuc calente, cola.

Concerning the cure of dropſy, our author obſerves, that, in recent caſes, it ſhould be attempted ed by acrid, aromatic, and alkaline medicines, as theſe ſerve to ſtimulate and ſtrengthen the patient. But, in the more advanced ſtages of the diſeaſe, he thinks that acids are more proper, on account of the putrefaction which then takes place, and frequently produces gangrene and haemorrhages.

The author ſuppoſes that urinary calculi very frequently, if not always, derive their origin from the rupture of ſome artery, a little blood being thus extravaſated upon which the ſtone is formed. This opinion, he thinks, is confirmed, by the appearance of ſome red or brown ſpot in the centre of every ſtone, and by the many calculi which have been formed upon extraneous bodies lodged in the bladder. For the removal of a ſtone lodged in the ureters, he adviſes bleedings, emetics of ſquils, the warm bath, ſtimulating clyſters, bliſters to the neck and arms, mercurial purgatives, and exerciſe in a carriage upon rough roads.

Sir Clifton Wintringham divides pains in the joints into thoſe attended with inflammation, and thoſe which are without inflammation. The firſt he aſcribes to cold, the laſt to acrid and thick humours,

mours, with ſuch a ſtate of the veſſels, as will not permit them to paſs with eaſe. The pains which are free from inflammation, he ſub-divides into thoſe which are attended with ſwelling, and thoſe which are without it. Theſe laſt are again ſubdivided into the vague and fixed, the former generally ariſing from an acrimony of the fluids, the latter from cauſes which conſtrict or dilate the parts affected too violently. For each of theſe caſes he points out what he eſteems to be the proper method of cure, in which he does not differ greatly from the common practice.

Scrophula, according to our author, conſiſts not only in a diſeaſe of the veſſels in the part affected, but alſo in a lentor, and acrimony of the fluids which paſs through them. For the cure, he adviſes calomel, taken in ſmall quantities, and at proper intervals, with diluent and ſedative decoctions of china-root, ſarſaparilla, ſaſafras, or guajacum. He directs that mild cathartics ſhould be given at times, and on thoſe days which are free from purging, that the patient ſhould uſe the warm bath or emollient fomentations, with friction of the part affected, in order to derive the mercury to the obſtructed veſſels. When theſe remedies have been uſed for ſome time, we are then to have recourſe to mineral waters; and, in order to prevent a relapſe, the Peruvian bark and ſteel ſhould be taken after the cure is completed.

Our author ſuppoſes, that hypochondriac patients have always ſome obſtruction of the ſpleen, becauſe they are ſalacious, void much urine, and have great appetites, theſe being circumſtances which conſtantly occur, although in a greater degree, to all animals who have loſt the ſpleen. The treatment of this diſeaſe is to be varied according to the cauſes upon which it depends. When it proceeds from a ſedentary life, the remedies, which our author recommends, are laxative mineral waters, antiſcorbutic juices, mild mercurials, ſoap, thin diet, exerciſe, amuſement, and, towards the end of the diſeaſe, ſteel. When it ariſes from debility, the cure is to be attempted by aſſes milk, chalybeates, Peruvian bark, and gentle exerciſe. When it ariſes from the ſuppreſſion of uſual evacuations, it is to be treated by moderate bleeding and purging, refrigerants, and anodynes, to theſe muſt be added ſuch medicines as will reſtore the wonted evacuation, as bitters, aromatics, acrid gums, and cinnabar; and chalybeates and Peruvian bark muſt be given to prevent a relapſe.

The author attributes hyſteria to a particular acrimony of the fluids joined to a certain thickneſs of them. He is of opinion, that the cure of this diſeaſe, during the paroxyſm, cannot be reduced to any general rules. But, he obſerves, that bleeding, at the firſt attack of the paroxyſms, and afterwards bliſters, have been very ſucceſsful with him in moſt caſes.

IV.

Exercitatio Pathologico-Semiotica, de veſpertina morborum exacerbatione. Vid Danielis Wilhelmi Trilleri *Phil. et Med. Doct. &c. Opuſcula Medica ac Medico-Philologica.* Vol. 3. 4to, Francofurti.

IT has been matter of diſpute among phyſicians, whether there be any particular period of the day, at which diſeaſes in general are worſe than at other times. Our author taking it for granted that there is ſuch a period, and that this period is the evening, employs this diſſertation in an attempt to inveſtigate the reaſon of it. He introduces his ſubject, by obſerving that many diſeaſes are peculiar to different ſeaſons of the year. Hence has ariſen, the diviſion of diſeaſes by the moſt early authors, into thoſe of ſpring and autumn, of ſummer and winter. Proceeding, then, upon this foundation, he compares the day with the year, ſuppoſing the different periods of morning, noon-day, evening, and night, to correſpond with the different ſeaſons. Without enlarging upon other periods, he conſiders particularly the reſemblance between autumn and evening.

From different authorities, he endeavours to prove, that autumn is the moſt unhealthy ſeaſon of the year; hence he ſtiles it the bringer of grief, and of fruit; the good natured, and the ill natured; the giver, and the robber. The ſame accidents, our author maintains, ariſe from the evening air, as from that of autumn. From the change which it undergoes, becoming ſuddenly cold, heavy, and moiſt, it affects the joints and nerves of the ſick, ſtops perſpiration, and ſhuts the pores of the ſkin. The ſame air alſo drawn into the lungs affects their tender fibres, and veſicles, and adds, as it were, a new diſeaſe to the old. This our author takes to be the cauſe of the evening exacerbation of all diſeaſes.

After ſubjoining, from different authors, ſeveral remarkable inſtances of evening exacerbations, he concludes with expreſſing his aſſent to the truth of one of Hippocrates's aphoriſms, in which it is aſſerted, that, in moſt diſeaſes, the evening preceeding the criſis is the moſt troubleſome and moſt griveous, in ſo much, that, in many caſes, the patient often ſeems to breathe his laſt.

V.

Exercitatio Pathologica-Semiotica de ingenti differentia vomicarum opertarum et apertarum. Vid. Danielis Wilhelmi Trilleri, *Phil. et Med. Doct. Opuſcula medica ac Medico-Philologica.* Vol. 3. 4to, Francofurti.

FROM the title of this diſſertation, the view of the author is ſufficiently apparent. He defines a vomica to be pus tunicatum, which, he affirms, may exiſt of different ſizes in every cavity of the body. While it remains whole, even although it be hid in any of the principal viſcera, patients, ignorant of their impending danger, live without any convenience. But, upon breaking, it pours out virulent pus, which affects the neighbouring ſound parts.

From this circumſtance, our author imagines we are to account for the ſudden death of many, who have before enjoyed good health. He is even

ven of opinion, that a number of thoſe patients, who are ſuppoſed to die apoplectic, would, upon a careful examination, be found to have been cut off by the burſting of a vomica in ſome of the viſcera eſſential to life.

Hence, he inſiſts upon the propriety of opening all thoſe patients which become the victims of ſudden death. In ſupport of this opinion, he adds many hiſtories of particular caſes, from different practical authors, particularly from Nicolaus Maſſa, Dodonaeus, Fernellius, Poterius, Tulpius, and Van Swieten.

VI.

Joſeph Jacob Plenck *Sammlung von Beobachtungen uber einige Gegenſtande der Wundarzneykunſt. 1ſter Thiel.* i. e. *A Collection of chirurgical Obſervations, by Joſeph James Plenck.* 8vo, Vienna.

MR Plenck, whoſe writings are already well known to the medical world, has formed a deſign of publiſhing a periodical work in ſurgery. That he may render it more perfect, he invites men of learning and obſervation to communicate their remarks to him, which, if they ſhall be deemed worthy of publication, he promiſes to inſert in the order they are received. One part of this work is already publiſhed, and contains diſſertations on various ſubjects.

In the firſt eſſay, the author conſiders the plan of education beſt adapted, for forming an intelligent ſurgeon. In the ſecond, he treats of the effects of thunder and lightning on the human body. On this ſubject, many of his opinions are ſingular. He begins by enumerating the phaenomena, which thunder and lightning have been obſerved to produce on mankind. They frequently kill, without producing any external injury. Sometimes one in a company will ſuffer when all the reſt eſcape. Others again are ſtruck to the ground, but eaſily recover. They often occaſion marks upon the ſkin, and in different cavities of the body; they give riſe to paralytic affections; they occaſion wounds ſimilar to what are produced by muſket-balls; they break the bones without doing any injury to the ſoft parts; they burn the cloaths, membranes, ſkin, and hair; and, in fine, will ſometimes even reduce the whole body to aſhes.

All theſe phaenomena, the author imagines, may be eaſily explained upon the ſuppoſition that thunder and electricity depend upon the ſame principle. For the electric fluid quickly penetrates, even the moſt ſolid bodies, and breaks whatever interrupts its courſe. Beſides this, it produces a remarkable expanſion of fluids. Upon theſe general effects, our author attempts to explain all the particulars above enumerated.

After theſe obſervations on the effects of thunder and lightning, he concludes the conſideration of this ſubject, by delivering his opinion concerning the method of cure. As the affections, occaſioned by lightning, are ſometimes extended over the whole body, ſometimes confined to particular parts, he divides the cure into univerſal and particular. The cure, he obſerves, is to be effected, by evacuating the veſſels, by ſtrengthening the ſyſtem, and by abſtracting the electric matter. For anſwering the firſt of theſe indications, he propoſes blood-letting, and antiphlogiſtic purgatives; for the ſecond, Peruvian bark; and, for the third, ſteel medicines, which he imagines will operate by attracting the electrical fire.

In the next eſſay, the author treats of gun-ſhot wounds. Here, likewiſe, he introduces the theory of electricity, and, from a diligent compariſon of many of the phaenomena, ariſing from thunder, with thoſe produced by ſhot, he is inclined to believe, that the ball communicates to the body dy an electrie ſhock. Upon this principle, with a view to repell inflammation, alleviate pain, and withdraw electric matter, he adviſes, that, beſides the ordinary applications, gun-ſhot wounds ſhould be fomented with water moderately warm, in which hot iron has been extinguiſhed. He condemns the uſe of ſpirit of wine, and all emollient epithems, as increaſing pain and preventing ſuppuration. Internally, he recommends antiphlogiſtic medicines, and, when the ſuppuration is once begun, the Peruvian bark.

The next ſubject of inquiry is the chirurgical uſe of opium. As opium is evidently acrid to the taſte, and as it irritates parts to which it is externally applied, the author is of opinion, that it is rather to be claſſed among thoſe medicines exciting heat, pain, and inflammation, than among thoſe which refrigerate and ſtupify. He imagines that it is hurtful in every caſe of inflammation: He condemns its uſe, either before or after chirurgical operations: And he maintains that, in cancers, it greatly haſtens the progreſs of the diſeaſe.

He does not, however, altogether deny the anodyne and ſtupifying power of opium. But he maintains, that theſe effects are not to be expected ed from its external application, as he ſuppoſes them to depend upon its more volatile parts, which he imagines will not be abſorbed, but will readily fly off into the air. On the other hand, he affirms, that, when taken internally, it not only acts as an anodyne and antiſpaſmodic, but likewiſe irritates the nerves and veſſels, and increaſes the motion of the fluids; and he is of opinion that its ſtimulant effects in this manner are by much the moſt conſiderable which it produces.

We are next preſented with ſome obſervations concerning a wound in the diaphragm, about four fingers breadth from the back-bone. At firſt the pain was very inconſiderable, and it continued ſo till the ſecond day after the accident. But at that time the patient, when going about his ordinary buſineſs, was ſeized with moſt acute pains, which continued till next morning, and then went off. They ſoon, however, returned again, attended with fever, ſwelling of the abdomen, and difficulty of breathing; and on the ſixth day he died.

The body was examined after death, and a wound was diſcovered in the diaphragm, about an inch in length, rather towards the left ſide, but equally in the muſcular and aponeurotic parts of it. Thro' this opening was found a portion of the colon in a mortified ſtate, to which, our author imagines, we muſt artribute all the bad ſymptoms above enumerated, and even the death of the patient. Hence he concludes, that wounds of the diaphragm, of themſelves, are not ſo dangerous as has in general been imagined.

The laſt ſubject here treated of is the uſe of Peruvian bark in ſurgery. Here the author has collected inſtances of its employment in gangrene, ſuppurations, wounds, and ulcers, cancers, ſcrophulous complaints, haemorrhagies, putrid fevers, ſpaſmodic affections, diſeaſes of the eyes, indurated tumours, and inflammations. To theſe obſervations, he premiſes a general diſquiſition concerning the conſtituent parts of the Peruvian bark; with regard to which, it is only neceſſary to obſerve, that he is of opinion it contains a conſiderable quantity of ferruginous particles, which he thinks is evidently proved from its being attracted by the magnet.

VII.

Rudimenta Pyretologiae Methodicae, Auctore C. G. Selle, *M. D.* 8vo, Berolini.

IT is univerſally allowed, that, in order to practiſe medicine with ſucceſs, nothing is more eſſentially neceſſary, than that the phyſician ſhould be able, with certainty, to determine under what diſeaſe his patient labours. That branch of medicine, which treats of this ſubject, has been termed Noſology. By practical writers, the conſideration of it has been conducted upon different plans. But the ſingular advantages obtained in the different branches of natural hiſtory, particularly in botany, from following a general ſyſtematic order, as affording the means of readily diſtinguiſhing individuals from each other, has led to the hopes, that ſimilar benefit would accrue from a methodical ſyſtem of noſology. Hence it has been the wiſh of ſome of the greateſt names in medicine, that an arrangement of diſeaſes, productive of ſuch advantages, might be obtained; and they have even expreſſed their hopes of the ſpeedy accompliſhment of this end, ſhould the ſubject ever be ſtudied with the attention which they thought it merited. The public, however, have hitherto been favoured with few attempts in this way. But even theſe ſerve to demonſtrate, that a methodical ſyſtem of noſology is both readily attainable, and highly uſeful.

The author, now before us, treats of the claſſification of febrile diſeaſes only. He has here offered a new arrangement of theſe. A view of this we ſhall now preſent to our readers, without giving any account of the ſymptoms by which he endeavours to characterize each particular ſpecies of fever.

ORDO. I. CONTINENTES.

Genus I. CONTINENS Inflammatoria.

Species.

a. Simplex.

b. Complicatae.

a. *Cum inflammatione locali.*

I. *Phlegmone*.
  1. Inflammatio oculorum.
    a. externa.
    b. interna.
  2. Inflammatio aurium.
    a. externa.
    b. interna.
  3. Inflammatio pharyngis
  4. laryngis
  5. aſperae arteriae
  6. linguae
  7. pleurae
  8. mediaſtinae
  9. pericardii
  10. diaphragmatis
  11. pulmonum
  12. pleurae et pulmonum
  13. hepatis.
    a. partis convexae
    b. partis concavae
    c. cyſtidis felleae.
  14. Inflammatio lienis
  15. cordis
  16. renum.
    a. vera
    b. calculoſa.

17. Inflammatio veſicae urinariae
18. uteri
19. ventriculi
20. inteſtinorum.
    - *a.* tenuium
    - *b.* craſſorum.
21. Inflammatio meſenterii
22. omenti
23. inteſtinorum et omenti
24. cerebri.

II. *Eryſipelas.*

III. *Rheumatiſmus.*

- *a.* univerſalis
- *b.* in juncturis
- *c.* in lumbis
- *d.* in coxa
- *e.* in latere
- *f.* in hypochondrio dextro.

β. *Cum catarrho.*

1. Catarrhus narium
2. pulmonum.

γ. *Cum dyſenteria.*

δ. *Cum exanthematibus.*

1. Peſtis
2. Variolae.

3. Morbilli
4. Febris ſcarlatina
5. urticata
6. Eſſera
7. Febris eryſipelatoſa
8. miliaris
9. bulboſa
10. aphthoſa
11. petechialis.

G. II. Continens putrida.

Species.

a. Simplex.
b. Complicatae.

α. Cum inflammatione locali.

I. *Phlegmone.*

1. Inflammatio pharyngis
2. pleurae
3. pulmonum
4. pleurae et pulmonum
5. hepatis
6. uteri
7. cerebri.

II. *Eryſipelas.*

III. *Rheumatiſmus.*

β. *Cum catarrho.*

1. Catarrhus narium et faucium
2. pulmonum.

γ. *Cum dyſenteria.*

δ. *Cum exanthematibus.*

1. Peſtis
2. Variolae
3. Morbilli
4. Scarlatina
5. Febris eryſipelacea
6. Miliaria
7. Febris bulloſa
8. aphthoſa
9. petechialis.

ORDO II. REMITTENTES.

A. *Cum colluvie impura primarum viarum.*

G. I. FEBRIS bilioſa inflammatoria.

Species.

a. Simplex.

b. Complicatae.

α. *Cum inflammatione locali.*

I. *Phlegmone.*

1. Inflammatio oculorum
2. pharyngis
3. pleurae
4. pleurae et pulmonum
5. pulmonum
6. hepatis
7. inteſtinorum
8. inteſtinorum et omenti
9. renum.

II. *Eryſipelas.*

III. *Rheumatiſmus.*

β. *Cum catarrho.*

1. Catarrhus narium
2. pulmonum.

γ. *Cum dyſenteria.*

δ. *Cum exanthematibus.*

1. Peſtis
2. Variolae
3. Morbilli
4. Febris ſcarlatina
5. urticata

6. Eſſera
7. Febris eryſipelatoſa
8. miliaris
9. aphthoſa
10. petechialis.

G. II. Febris bilioſa putrida.

Species.

a. Simplex.
b. Complicatae.

α. *Cum inflammatione locali.*

1. Inflammatio pharyngis
2. pleurae
3. pleurae et pulmonum
4. pulmonum
5. hepatis
6. ventriculi
7. inteſtinorum

II. *Rheumatiſmus.*

β. *Cum catarrho.*

γ. *Cum dyſenteria.*

δ. *Cum exanthematibus.*

1. Peſtis
2. Variolae

3. Morbilli
4. Febris ſcarlatina
5. eryſipelatoſa
6. miliaris
7. petechialis
8. aphthoſa.

G. III. FEBRIS cum Colluvie Pituitae in Primis Viis.

Species.

a. Simplex.
b. Complicatae.

α. *Cum inflammatione locali.*

1. Inflammatio pharyngis
2. pulmonum
3. hepatis
4. ventriculi.

β. *Cum catarrho,*

1. Catarrhus pulmonum.

γ. *Cum dyſenteria.*

δ. *Cum exanthematibus.*

1. Miliaria
2. Febris petechialis.

B. *Cum colluvie verminoſa in primis viis.*

G. I. Febris Verminoſa Inflammatoria.

Species.

a. Simplex.
b. Complicatae.

α. Cum inflammatione locali.

1. Inflammatio oculorum
2. pleurae et pulmonum
3. pulmonum.

II. *Rheumatiſmus.*

β. Cum catarrho.

γ. Cum exanthematibus.

1. Febris eryſipelatoſa.

G. II. Febris Verminoſa Putrida.

Species.

a. Simplex.
b. Complicatae.

α. Cum inflammatione locali.

1. Pleurae et pulmonum.

β. Cum exanthematibus.

1. Febris petechialis.

C. *Ex ulcere interno.*

Species.

1. Exulceratio pulmonum
2. Empyema
3. Exulceratio hepatis
4. lienis
5. pancreatis
6. renum
7. uteri
8. omenti
9. meſenterii
10. ventriculi et inteſtinorum.

D. *Ex obſtructione viſcerum.*

Species.

1. Hectica hepatica
2. meſenterica.

ORDO III. ATACTÆ.

G. I. FEBRIS Nervoſa Acuta Sporadica.

Species.

1. Phrenitis
2. Febris ſoporoſa
3. Hydrophobia
4. Febris nervoſa acuta puerperarum.

G. II. FEBRIS Nervoſa Acuta ex Contagio.

Species.

1. Sudor Anglicus
2. Peſtis acutiſſima
3. Febris nervoſa putrida.
   - *a.* Peſtis
   - *b.* Stadium tertium febrium bilioſo-putridarum.

G, III. FEBRIS lenta nervoſa.

Species.

a. Simplex.

b. Complicatae.

1. Variolae
2. Morbilli
3 Miliaria.

ORDO. IV. INTERMITTENTES.

G. I. INTERMITTENS Inflammatoria.

Species.

a. Simplex.

b. Complicatae.

1. Inflammatio oculorum
2. pleurae et pulmonum
3. pulmonum.

G. II. INTERMITTENS Inflammatoria Bilioſa.

Species.

a. Simplex.
b. Complicatae.
  1. Inflammatio pleurae et pulmonum.

G. III. INTERMITTENS Bilioſa Putrida.
G. IV. INTERMITTENS Pituitoſa.
G. V. INTERMITTENS Verminoſa.
G. VI. INTERMITTENS Nervoſa.

VIII.

New Obſervations upon Vegetation. By Mr Muſtel, *of the Academy of Sciences at Rouen, tranſlated from the French.* Vide *Philoſophical Tranſactions, vol.* 63. *part* 1. 4to, London.

THE doctrine of the circulation of the ſap of vegetables was once a matter of great controverſy; and, however deciſive the experiments of Dr Hales againſt ſuch a ſyſtem, may appear to others, the author of the preſent paper imagines, that they do not afford a ſatisfactory refutation of it. To aſcertain this important point, Mr Muſtel inſtituted an experiment, the event of which throws light, not only upon the preſent queſtion, but likewiſe upon ſeveral others.

In the middle of winter, he placed, againſt the windows of a hot-houſe, ſeveral ſhrubs in pots, ſome within the houſe, and others without it. Through holes made for that purpoſe in the panes of glaſs, he paſſed a branch of each of the ſhrubs;

ſo that thoſe on the inſide had a branch without, thoſe on the outſide a branch within the houſe. After this the holes were cloſed and luted exacly. The appearances which this experiment afforded, led him to many concluſions.

The trees within the hot-houſe paſſed through all their changes during the winter; while their branches put through the panes, and expoſed to the open air, underwent none. And the tree placed on the outſide of the hot-houſe continued through the winter in the ſtate of inactivity natural to all trees at that time; while its branches within the hot-houſe put forth ſucceſſively buds, leaves, bloſſoms, and fruit. This even happened at a time, when the root furniſhing theſe branches was in earth, ſo hard frozen, as to break the pot in which it ſtood; and when the top and ſtock of the tree were ſo covered with ice, that many of the branches were killed. In this caſe, therefore, a circulation could at moſt take place in the vegetating branches only. But even ſuppoſing that to happen, it could never be properly called circulation, as being confined to one limb. He concludes, therefore, that the circulation of the ſap in plants is not analogous to that of the blood in animals.

Another concluſion which he draws is, that each part of a tree is furniſhed with a ſufficient quantity of ſap to effect the firſt production of buds, flowers, and fruits. This he infers, becauſe he thinks it improbable, that the branches in the hot-houſe derived their ſap from the roots of the tree, at the time when it was buried in hard frozen earth. The conſumption thus occaſioned in the branch, would, he thinks, be ſupplied at the breaking of the froſt. As a farther confirmation of this opinion, he obſerves, that vegetation goes on for ſome time in branches of trees broken down, at certain ſeaſons of the year.

His laſt concluſion is, that it is heat which unfolds the leaves, and produces the other parts of fructification in the branch expoſed to its action. This is evident from the leaves appearing only in thoſe parts expoſed to the action of the heat; which furniſhes another argument againſt any circulation of ſap taking place in vegetables, as it ſhows this ſap to have been in motion only in particular parts.

Many other conſequences, the author obſerves, might be drawn from this experiment; but theſe he delays mentioning at preſent; and propoſes examining them more at large in a treatiſe on vegetation.

In the courſe of the above experiments, three of the flower-buds of an apple-tree were gnawed by a ſnail in ſuch a manner, that all the petals and ſtamina were deſtroyed, the flower being eat to the calyx. As the ſnail's progreſs was ſtopped here, the baſis of the piſtillum, and the embryo were preſerved. Contrary to expectation, all the three bore fruit. The apples were perfectly formed, and, to the number of ſix or ſeven, of a pretty large ſize, upon a bunch. The ſnail had not touched ſome other bunches, each of which had ten or twelve flowers; but, of theſe, not above one or two ſhewed any ſigns of fruit. This ſuggeſted to him the idea of obtaining fruit more certainly, by cutting off the petals when the flowers were full blown, in imitation of what had been done by the ſnail. With this view, he tried ſeveral experiments on apple, pear, plumb, and cherry bloſſoms, cutting off with ſciſſars the petals cloſe to the calyx. In almoſt every one of theſe caſes, he obtained fruit, whilſt ſeveral of the neighbouring flowers miſcarried.

Mr Muſtel, however, thinks it doubtful, whether the ſuppreſſion of the ſtamina would not render the fruit barren, as the apples which he obtained from thoſe flowers of the apple-tree, the ſtamina and petals of which were eat up by the ſnail, though they were large and beautiful, were found without the leaſt appearance of ſeed, although the capſules were formed, as uſual, at their centers.

IX.

An Account of the Diſcovery of the Manner of making Iſinglaſs in Ruſſia, with a particular Deſcription of its Manufacture in England, from the Produce of Britiſh Fiſheries. In a letter from Humphry Jackſon, *Eſq; F. R. S. to* William Watſon, *M. D. F. R. S.* Vide *Philoſophical Tranſactions, vol. 63. part* 1. 4to, London.

ISINGLASS, fiſh-glue, or ichthyocolla, is a conſiderable article of commerce. The fiſh, from which it is procured has been mentioned by ſeveral natural hiſtorians: But the proper method of manufacturing it has long remained a ſecret.

The author of the letter now before us introduces his ſubject, by obſerving, that Pomet, from whom many others ſeem to have copied their accounts, has greatly miſtaken both the conſtituent matter and preparation of iſinglaſs. From his account of the proceſs, we are led to ſuppoſe, that it may be procured from every ſpecies of fiſh affording gelatinous principles. Truſting to the authority of chemical writers, Mr Jackſon's attempts to diſcover the conſtituent parts of iſinglaſs were at firſt without ſucceſs. Glue, not iſinglaſs, was the reſult of every proceſs. A journey to Ruſſia, with a view of diſcovering this ſecret, was as unſucceſsful as his other attempts. But, by a ſteady perſeverance, he, at length, not only gained his end, but, in the purſuit, diſcovered alſo a reſinous ſubſtance, plentifully procurable in the Britiſh fiſheries, which experience has confirmed to be poſſeſſed of the ſame properties.

In conſidering this ſubject, Mr Jackſon firſt gives the reſult of ſome experiments, which ſhew the impracticability of making iſinglaſs by a previous ſolution of animal matters, according to the proceſs delivered by moſt authors. He then ſhews, that it is nothing more than certain membranous parts of fiſhes, diveſted of their natural mucoſity, rolled and twiſted into various forms, and then dried in the air. This is proved by the following experiment: If long or ſhort ſtapled iſinglaſs be ſteeped for a few hours in cold water, and then untwiſted, the membranes of which it is compoſed will expand, and reaſſume their former original hue. By a dexterous addreſs, they may even be perfectly unfolded.

The finer ſort of iſinglaſs is prepared from the ſounds, or air-bladders, of all ſorts of freſh-water fiſh. In Muſcovy, however, it is chiefly prepared from thoſe of the beluga. The book, or ordinary ſtaple iſinglaſs, ſeems to be prepared from the inteſtines, and probably alſo from the peritoneum of the ſame kinds of fiſh.

The parts of the fiſh from which the iſinglaſs is formed, particularly the ſounds, are taken out while freſh and ſweet, they are then ſlit open, waſhed from their ſlimy ſordes, diveſted of every thin membrane which envelopes them, and afterwards expoſed for a little to the air, that they may, in ſome degree, ſtiffen. When, in this ſtate, they are formed into rolls of different length, and thickneſs, or into what is generally called Book and Cake Iſinglaſs, and they are afterwards completely dried in the open air.

Our author imagines, that the peculiar ſhapes in which we at preſent find iſinglaſs, were given it at firſt, with a view to diſguiſe the real ſubſtance of which it conſiſts. As this, however, in the Britiſh fiſheries, would be unneceſſary, he imagines it will anſwer every purpoſe in its native ſtate, without any ſuch preparation.

As a ſpecies of iſinglaſs, procured from the marine fiſheries, may be more immediately encouraged, Mr Jackſon propoſes a method of preparing it from the ſounds of cod, and ling. The iſinglaſs prepared from the latter of theſe fiſh, will admit of any ſhape; that from the cod of the book-ſhape only. From the cartilaginous nature of the ſturgeon, it might be imagined that it ſhould yield a large proportion of iſinglaſs. Upon on examination, however, this is found not to be the caſe.

This paper is concluded with an account of the effects of iſinglaſs on compoſitions of plaſter, or lime, for ornamenting walls expoſed to the viciſſitudes of the weather. If it be diſſolved in cold water, acidulated with vitriolic acid, and then mixed with the above compoſitions, it forms an indiſſoluble firm concrete of extraordinary ſtrength and durability. In this compoſition, the acid quits the jelly, and forms with the lime a ſelenitic maſs; while, at the ſame time, the jelly being deprived of its moiſture, by the formation of an indiſſoluble concrete among its parts, ſoon dries, and hardens into a firm body.

X.

An experimental Inquiry into the Figure and Compoſition of the Red Particles of the Blood, commonly called the Red Globules. Being a Copy of a Paper lately read before the Royal Society. By William Hewſon, *F. R. S. and Teacher of Anatomy.* 4to, London.

SINCE the time of Leeuwenhoeck, the red particles of the human blood have, in general, been ſuppoſed to be ſpherical. This figure, however, has been doubted by Father de la Torré, and ſome others; and the induſtrious author of the diſſertation now before us, whoſe labours, exerted with the moſt happy ſucceſs for the improvement of others, have unfortunately proved fatal to himſelf, likewiſe controverts this opinion. Having made ſome new obſervations on this ſubject, he here preſents them to the public.

He introduces his ſubject, by obſerving, that theſe particles in the blood are found very generally extended over the whole animal creation.

It is, however, by the aſſiſtance of the microſcope only, that they can be diſcovered. In all the experiments mentioned in this paper, one excepted, the ſingle microſcope was employed, which, tho' inferior in magnifying powers to the compound microſcope, is much ſuperior to it in diſtinctneſs.

Mr Hewſon affirms, that the human blood, or blood of other animals, diluted with ſerum; with water having one ſixth, or one twelfth of any neutral ſalt diſſolved in it; or with urine, when ſtrongly impregnated with ſalts, ſhews the particles, improperly called globules, to be flat bodies, having a dark ſpot in the middle. And this figure, he obſerves, they not only ſhew in extravaſated blood, but alſo in that circulating in the veſſels of animals. The ſize of theſe particles, he obſerves, varies, not only in different animals, and in the ſame animal at different times, but even in the ſame animal, and at the ſame time. They are, however, upon the whole, largeſt in the ſkate, and ſmalleſt in the ox, mouſe, cat, bat, and aſs.

If blood be examined, when diluted with a ſtronger ſolution of neutral ſalt than that mentioned above, the particles appear ſhrivelled and contracted. If it be examined without dilution, as it flows from a vein, though ſpread very thin upon talk or glaſs, it appears a confuſed maſs, in which the particles cannot be ſeen ſeparate from each other. It is, therefore, to proper dilution, that Mr Hewſon attributes his ſucceſs in detecting the real figure of the red particles of the human blood. Leeuwenhoeck himſelf allowed, that, in fiſhs, and amphibious animals, theſe bodies were flat and eliptical; and our author imagines it probable, that he concluded them to be ſpherical in quadrupeds and in the human body, rather from theory than obſervation; for, as the blood which he examined was not diluted, he could not be qualified to deſcribe them.

When the particles are diluted with water, they appear firſt ſpherical, and then diſſolve. When they have aſſumed a ſpherical figure, the black ſpot before ſeen in their middle, may be obſerved ſometimes to turn and roll from one ſide to the other, and ſometimes to ſtick to the ſide of the ſphere, like a pea in a bladder. The diameter of theſe ſpheres is leſs than their largeſt diameter when in a flat ſhape; and the blackiſh bodies appear to be leſs ſoluble than the veſicle containing them, as they remain after the diſſolution of the veſicles. From theſe obſervations, Mr Hewſon concludes, that the particles of the blood are not, as Father de la Torré ſuppoſed, annular or hollow rings, and that the blackiſh ſpot, which he imagined to be a perforation, is a ſolid body contained in a veſicle, the ſides of which are filled with a ſubtile fluid.

Blood, beginning to putrify, when diluted with freſh ſerum, or freſh blood diluted with putreſcent ſerum, exhibits particles like mulberries, or rough ſpheres, the diameters of which are leſs than the largeſt diameters of the particles in a flat ſhape. In blood begining to putrify, the particles ſometimes break to pieces, and the black ſpot is fiſſured through its middle. Theſe phaenomena our author conſiders to be farther arguments againſt the annular ſtructure of the red globules.

Mr Hewſon maintains, that there is nothing regular in the number of parts into which the veſicles break; though Father de la Torré ſuppoſed each to be compoſed of ſeven joints, into which they regularly broke down; and Leeuwenhoeck imagined, that each globule conſiſted of ſix leſſer ones.

After theſe experiments on the blood diluted with pure water, and with water impregnated with different proportions of neutral ſalts, Mr Hewſon concludes, that the uſe of the ſerum is to preſerve the flat ſhape of the veſicles. And, from obſerving, that both a very ſtrong ſolution, and a very dilute one, alter their ſhape, he thinks it probable, that nature has limited the proportion of water and ſalts in our blood; but that in this proportion there is ſome latitude. He imagines likewiſe, that the mucilage of the lymph has ſome ſhare in preſerving the flat ſhape of the red particles.

SECT. II.

Medical Obſervations.

* * *

I.

The Account of a very extraordinary Enlargement of the Stomach, diſcovered upon Diſſection. By Mr Anderſon *Surgeon in Leith.*

A Man, about ſixty years of age, by trade a weaver, had, for a conſiderable time, complained of want of appetite, indigeſtion, flatulency, and pain in his bowels. In February 1766, he was attacked with an obſtinate coſtiveneſs, which was with difficulty removed. After this, he continued in his uſual ſtate of health, till about the middle of July. He had then a return of the coſtiveneſs, attended with violent vomiting. The coſtiveneſs was again removed by proper remedies, upon which the vomiting ceaſed. But, afterwards, he had a periodical return of vomiting every evening between eight and nine o'clock; and he never had a ſtool without the aſſiſtance of an injection, which he got regularly every ſecond night. In this way, he continued to linger till he died.

I obtained leave to open his body, and the preternatural ſtructure, which I diſcovered, upon diſſection, was of a very ſingular nature. When the abdominal integuments were laid aſide, a large plain ſurface, extending from the ſternum to the pubis, and from the one ſide of the abdomen to the other, was expoſed to view. This uncommon appearance ſurpriſed thoſe who were preſent; nor was their ſurpriſe diminiſhed, when, upon examination, it was found to be the ſtomach enlarged to ſuch a ſize as to fill the whole abdomen. Its fundus deſcended ſo far as to go within the pelvis. Here the ſmall guts were entirely lodged. They were cloſely preſſed together, and quite empty. The caput coli was in its natural ſituation; but, as well as the whole curvature of the colon, it was covered by the ſtomach. The colon at the ſygmoid flexure was very hard, and much thickened, ſo as greatly to ſtraiten the canal. For about three inches in length, it was not wider than a gooſe-quill. Every other part of the inteſtines appeared to be in the natural ſtate, and no ſcirrhus could be obſerved in any other viſcus.

II.

The Hiſtory of a Carcinomatous Ulcer in the Mouth, cured by the application of Leeches. By Mr John Bacon *Apothecary in York.*

MR F. P. a tobacconiſt in Wetherby, about 34 years of age, came to York to conſult my father in May 1768, for an ulcer in his mouth, with which he had been afflicted almoſt for a twelvemonth. The left tonſil was nearly conſumed, and the wound emitted a thin ſanious offenſive matter, attended with ſhooting pain. He had conſulted an eminent phyſician at Leeds, and ſeveral others of the faculty.

By their advice he had tried various remedies, but without any effect. My father, judging that the caſe might be venereal, ordered him a ſolution of corroſive ſublimate mercury in brandy, with a decoction of ſarſaparilla and tincture of Peruvian bark. Theſe medicines he took for ſome time, but without any alleviation of his complaint.

The following month he returned again to York. My father now began to ſuſpect his caſe to be cancerous; but, without communicating his ſuſpicions, deſired him to conſult Dr Dealtry. The Doctor confirmed this opinion, and immediately put him upon a courſe of hemlock joined with mercury. He was alſo ordered a gargle, with extract of hemlock and pectoral decoction. With this, I uſed to ſyringe his throat, which was now become extremely offenſive. He continued theſe remedies about a month; the cancer growing daily worſe and worſe. The diſcharge at length became intolerably offenſive, and ſo acrimonious, that, upon touching the parts with a ſilver ſpoon, it was immediately tinged, as if it had been immerſed in oil of vitriol; and the ſhooting pains were now extremely tormenting. Death indeed ſeemed to be the only probable means for delivering the unhappy patient from this ſhocking and deplorable ſituation. I cannot ſay, that I ever remember to have ſeen it approach in a more hideous form.

He was very deſirous of returning to his wife and family. But, being about to depart, an acquaintance happened accidentally to call upon him, who, upon being told that Dr Dealtry had given him up, deſired he would conſult an old woman, who at that time lived in York, and was famous for many cures in ſurgery. His friend was ſo very preſſing in his ſolicitations, that he reſolved to comply, although, as he has ſince told me, his faith was not very great.

The old gentlewoman inſpected his throat; and, after beſtowing a few ſharp appellations on the faculty, ſhe very confidently promiſed him a ſpeedy cure, by obſerving the following directions. She ordered him to apply, under his tongue, as many leeches as he could place there at a time; and, after they dropt off, to put a roaſted fig to the bleeding parts. This ſhe told him to repeat at intervals, till he was perfectly well, which ſhe again aſſured him, would be in a very ſhort time.

It was with difficulty he could be got home that night; and, when he arrived, it was ſo late, that the application of the leeches was deferred till the next day. Four were then applied to the place directed; every one of which, after remaining on about five minutes, dropped off dead. He found his throat immediately eaſier. The next day he had ſix leeches applied to the ſame place, which, after ſucking for the ſpace of about ten minutes, dropped from the part; but ſome of them ſurvived. His throat was now very conſiderably relieved, and he ſwallowed with much greater facility than before. A few days after this, he had a third application of the leeches, ſome of which alſo died.

The ichorous diſcharge, which was before intolerably offenſive, gradually diminiſhed, and became purulent. In fine, after purſuing this method for ſome time, every dreadful ſymptom vaniſhed, and he became, to all appearance, perfectly well. He has continued free from his complaints ever ſince. But, after working too freely at his buſineſs, he now and then feels a pain in his breaſt, about the inferior edge of the ſerratus muſcle, which ſhoots to his ear, and from thence up the ſide of his head to his face. Theſe pains, however, never affect him but upon neglect of bleeding with leeches, which he has generally done three or four times a year, ever ſince he had his diſorder; and this practice always gives him immediate relief. He is in every other reſpect perfectly well, and has no glandular ſwellings in any part of his body.

III.

The Hiſtory of a Caſe, in which a Tumour in the Abdomen, after Delivery, was imagined to be a ſecond Child; but ſoon after ſpontaneouſly diſappeared. By Mr John Aikin *Surgeon at Warrington.*

MRS P—, of a delicate habit of body, the mother of ſeveral children, was taken in labour in the night of October 23. 1773, and delivered of a ſmall child, which appeared to have been a ſhort time dead. The midwife, upon diſcovering that her belly continued much diſtended, ſuſpecting that there was ſtill another child, ſent for ſor me. I found the placenta lying looſe in the vagina. I removed it; but, upon introducing my finger, I could not feel any other ſubſtance preſenting. I then laid my hand upon the abdomen, and diſtinctly felt through the thin integuments, a large ſolid ſubſtance, of an irregular form, ſtretching high up above the navel. I made little doubt that this was a ſecond child; and I thought I could diſcover the protuberances of its limbs, and the reſt of its body. However, as there was no flooding, and as the patient was weak and fatigued, I did not think proper to attempt immediate delivery. After waiting, therefore, for ſome hours, as no labour-pains came on, I gave her an opiate; and left her under the care of the midwife.

I found her much in the ſame ſtate next morning; but the tumour was ſomething lower in the abdomen. I continued to viſit her daily, and found no other ſymptoms but thoſe uſually ſucceeding labour. The after-pains were moderate; the lochial diſcharge was at firſt ſmall, but afterwards very conſiderable in quantity, and of a ſlimy, foul appearance. The tumour gradually deſcended, ſoftened, and diminiſhed; and in leſs than a fortnight, it was quite imperceptible. The patient was at that time as well recovered as any of her weakly conſtitution could expect, after a common delivery. Her ſtools were regular, but the ſecretion of milk was but ſmall, as had been the caſe with her at her laſt lying in.

On inquiry, I learned, that her belly was not obſerved to be enlarged before pregnancy; that ſhe had been in a poor ſtate of health during the courſe of her pregnancy, having continual pain in the region where this tumour was found, with thirſt, hectic heats, and want of appetite. She had for ſome years paſt undergone a good deal of hardſhip and diſtreſs, from circumſtances of misfortune. She was, at the end of ſix weeks after this delivery, in better health than ſhe had been for many years before.

A practitioner of eminent ſkill and experience in this town informs me, that a caſe, almoſt exactly ſimilar to this in its ſymptoms and termination, fell under his care ſome years ago.

IV.

An Account of ſingular Appearances from Affections of the Liver, in two Caſes. By Mr James Hill *Surgeon in Dumfries.*

I.

A—— L——, when about ten years of age, received a hurt on her ſide, by a fall from a horſe. This was ſucceeded by ſwelling and hardneſs of her liver, and of all the epigaſtric region, which gradually increaſed for eleven years. For ſome part of that time, ſhe was much affected with ſhortneſs of breathing; and coughed up conſiderable quantities of blood and pus, mixed with hydatic globules and their membranes. By theſe ſymptoms, ſhe was ſo much reduced as to be able neither to ſtand nor ſit; but was obliged to lie conſtantly on her left ſide.

Notwithſtanding the diſcharge by cough, the ſwelling continued to increaſe, till her belly was as big as is uſual at the end of pregnancy. At length two prominences appeared near each other, a little below the falſe ribs. And, on the 13th of June 1752, they broke, by ſeveral ſmall orifices, which diſcharged a conſiderable quantity of thin matter during that night. By next morning, three or four of theſe ſmall orifices had fallen into one, and made an opening as large as the palm of one's hand. Through this, upon removing the bandage, there ſprung out three hydatides, each as large as a gooſe-egg. The cyſts, though perfectly tranſparent, were ſo ſtrong, that one of them did not break by falling on the floor. From this ſudden diſcharge, ſhe had almoſt fainted; but this was prevented by replacing the bandage. On the third morning, two more hydatides came away; beſides theſe, ſeveral membranes were diſcharged, which ſeemed to have been hydatides of the ſame ſize. For eight days after, at every dreſſing, multitudes of ſmaller ones were forced out, eſpecially if ſhe coughed.

A large diſcharge continued from this orifice for nine months; and, for three months longer, it gradually diminiſhed. The cough and ſpitting alſo declined, and were entirely gone, by the time the external orifice was healed. She continued, for thirteen years after this healthy and ſtrong, being affected only with a ſhortneſs of breath upon walking quickly, and being groſſer about the middle than formerly.

About the beginning of February 1766, three large tumours appeared on different parts of her abdomen; but they ſeemed to be ſeated no deeper than the muſcles. They were attended with fever and exceſſive pain. After poultices had been for ſome time applied to them, the contents of one of them, which lay on the left ſide, between the ſpine of the ileum and the ribs, made their way into the inteſtines. After which, great numbers of hydatides, with a conſiderable quantity of blood and pus, were diſcharged by ſtool. The others broke outwardly; and, for three or four years after, at different periods, tumours appeared on different parts of the abdomen, from all which hydatides were diſcharged. Notwithſtanding theſe threatening appearances, this patient obtained a perfect recovery, and is now alive, and in good health. For theſe four years paſt, ſhe has been able to undergo the fatigue of reaping during the harveſt, and of any other country-work.

II.

R—— S——, on the morning of the 30th of May 1770, walked about five miles to market, and returned in the evening. Immediately upon getting home, he complained of a moſt intolerable ſenſation of cold over his whole body, eſpecially in his legs; but, to others, he felt rather warm. To this ſuperveened other feveriſh ſymptoms, which were accompanied with a pain in the right ſide of his breaſt and belly. This pain was, in a few days, confined to the breadth of half a crown, in the region of the liver; but was exceſſively ſevere. Soon after, a cough came on, and he ſpat up phlegm for about ten days. This was ſucceeded by a diſcharge, which was generally of a yellow colour; ſometimes, however, it was greeniſh, and, at other times, of a browniſh caſt. With it there were mixed bags, reſembling the ſkins of gooſeberries, which appeared to burſt. This ſtuff came up both day and night; ſometimes it was diſcharged to the extent of many ounces, as faſt as he could ſpit it; at other times, he had an interval for ſome hours. Meanwhile he was extremely coſtive, ſeldom having above one ſtool in three or four days, without the help of medicines.

I did not ſee him till the 30th of July, which was about two months after the attack of his diſeaſe. I was then not a little ſurpriſed to find him coughing up mouthfuls of fluid bile. As I had never ſeen a ſimilar diſcharge before, the novelty of the appearance induced me to examine it with great attention. There can therefore be little reaſon to imagine I was miſtaken. I ordered him a ſaline mixture. But, a few days after it was done, a looſeneſs came on, without any medicine. What he diſcharged by ſtool was as white as milk, and continued ſo for eight or ten days. He then recovered ſo far as to be able, on the 15th of Auguſt, to ride two miles from his own houſe. But, as he returned, he was ſeized with a violent fit of coughing, which laſted for about an hour; and, during which, he expectorated a conſiderable quantity of ſtuff, as red as brick-duſt. After this, he recovered daily; and, on the 29th of May 1773, I ſaw him in perfect health.

From the above, and many more inſtances, which I have both ſeen and read of, may it not, with as much propriety, be ſaid, that ſome people have hydatic conſtitutions, as that others have ſcrophulous or ſcorbutic conſtitutions?

SECT. III.

Medical News.

◆◆◆

DR PERCIVAL acquaints Dr Duncan, that he has tried the flowers of Zinc in ſeveral epileptic caſes with good ſucceſs; and that he has received the following account of the efficacy of this medicine from a phyſician of great and deſerved eminence in his profeſſion.

"I have lately ſeen ſome remarkable good effects from the flowers of zinc in epileptic and ſpaſmodic caſes. A young woman, a patient of the Infirmary, had been ſubject to fits of the epileptic kind for a conſiderable time; which of late had increaſed ſo much upon her, that ſhe could not be truſted by herſelf even for a moment, as ſhe fell down often without the leaſt notice; and ſhe had frequently four or five fits in a day. After gently opening her body with Pil. Gummoſ. and a little Aloes, I gave her Flor. Zinci gr. v. in ſyrup, thrice a day. After the firſt day, ſhe entirely loſt her fits; and, in a month, was diſcharged from the hoſpital. I have not heard any thing from her ſince; ſo that I ſuppoſe ſhe is cured.

" A girl, fourteen years old, was cured of a Chorea Sancti Viti, by taking gr. i. of that medicine night and morning; after two doſes of the Pil. Rufi and Gummoſ.

" A boy, ſixteen years old, was received a patient at the Infirmary, for epileptic fits, ſuppoſed to ariſe from worms. He was put under a courſe of anthelmintics, which was continued for ſeveral weeks, without any advantage. I then gave him the flowers of zinc, at firſt, in doſes of two grains thrice a day. This diminiſhed the frequency of the fits; but, as they ſtill returned, though with ſomewhat leſs violence, once in two or three days, the doſe was increaſed to five grains. After this, he miſſed the fits for a fortnight; the doſe was then increaſed to ſix grains; and he had afterwards no more returns for a month; at the end of which time, he was ſent home.

"In ſome caſes where the zinc has not entirely removed the fits, it has very much abated the ſpaſms. I do not find that it promotes any evacuation, except that in ſome, upon being firſt taken, it occaſions a little ſickneſs, which goes off with a ſtool. It ſeems odd, that it ſhould ſit ſo eaſy on the ſtomach, ſince the metallic ſalt made from it, the Vitriol. Alb. is ſo violently emetic.

"I cannot forbear mentioning, that the apothecaries, who do not make this medicine themſelves, are very liable to be impoſed upon. I lately ſaw a parcel ſent from a druggiſt, which was a mere corroſion of the zinc, and indeed prepared with ſo little care, that the acid was not waſhed from it. This certainly would have proved a very rough medicine.

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From the high reputation which the columbo root has now acquired, the price of that medicine has of late been greatly raiſed. But it is more to be regreted, that there has been no freſh importation of it into Britain for a conſiderable number of years. It becomes therefore the duty of every phyſician and apothecary to be particularly attentive to what he preſcribes or purchaſes. For, on the one hand, there is reaſon to apprehend, that, from the ſcarcity and advanced price, it will be much adulterated; and, on the other, it is but natural to ſuppoſe, that, unleſs kept with great care, it will have ſuſtained much injury from time. Thus a valuable and efficacious medicine may be brought into unmerited diſcredit.

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We have ſeen a paper written by Mr Hill ſurgeon at Dumfries, concerning the aſcent of water, and other fluids into the air. From this paper, it appears, that the doctrine which ſuppoſes evaporation to depend on the air acting as a menſtruum to water was publiſhed by him in the Medical Muſeum in the year 1763, prior to its being publiſhed by any other Britiſh philoſopher who has adopted the ſame opinion.

Dr Monro at Edinburgh has lately received from Mr Hill an inſect, which was blown out of a gentleman's noſtril. It was diſcharged alive, and continued in that ſtate for ſome hours, creeping about ſlowly on a table. It was then put into ardent ſpirits; ſoon after which it died.

This inſect is about an inch and a half long, and ſeems to be of the Scolopendra kind, altho' it does not exactly anſwer to any deſcription given by Linnaeus. It is ſingular, that Dr Monro has, at different times, received from ſeveral other gentlemen, inſects of preciſely the ſame kind, all of which were alſo blown from the noſtrils of different perſons.

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Mr Copland ſurgeon at Kirkcudbright has lately performed, with ſucceſs, the operation of the trepan, as low down on the occipital bone, as to expoſe the integuments of the cerebellum. The patient was a man about thirty years of age, who became affected with ſtupor and paralyſis, in conſequence of a blow on the back part of his head. In performing this operation, an artery in the ſubſtance of the bone happened to be wounded, from which ſuch a haemorrhage enſued, as obliged Mr Copland to deſiſt, and to turn out a circle of bone a little lower down. After this was done, it appeared, that the ſkull had before received a conſiderable injury at that place. In conſequence of this, an irregular growth in the bone had taken place; and he found it, at one part, no leſs than nine tenths of an inch in thickneſs. Hence, the head of the trepan could not penetrate through the whole thickneſs of the bone at once, it being, as uſual, cloſed at the top, and not more than three fourths of an inch in depth.

The injury which the ſkull had ſuffered, as Mr Copland afterwards learned, proceeded from a fall upon the ice about two years before. No uneaſy ſymptoms were at that time produced; and the patient, although ſenſible of an uncommon inequality in the bone, did not eſteem it worthy of attention.

During the cure, a remarkable cineritious excreſcence was produced from the mouth of the artery, mentioned to have been wounded in the operation. This excreſcence, after being cut away, was repeatedly renewed. It exactly reſembled, both in colour and conſiſtence, thoſe protruſions of the brain which have of late been ſo freely dealt with.

In this caſe it was ſingular, that the patient complained of every application to the back part of his head as exciting pain in the fore-head. From this, Mr Copland concludes, that there is a mutual decuſſation of nerves, not only from one ſide of the brain to the other, but from the fore to the back part of it, and the contrary.

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In a treatiſe, lately publiſhed at Amſterdam, entitled, Deſcription générale, hiſtorique géographique et phyſique de la Colonie de Surinam, par Philippe Fermin, M. D. an account is given of two medicines, which are held in the higheſt eſtimation by the Indians in that part of the world. The firſt of theſe is named, Balſam de Racaciri. This balſam is the product of a tree growing in the neighbourhood of the river of the Amazones. It oozes from inciſions made in the tree, and is preſerved in calebaſſes placed for receiving it. It is eſteemed by the Indians a ſovereign remedy, as well againſt recent wounds as old ulcers. They apply it in the form of a plaſter, as warm as the patient is able to bear it. They reckon it alſo an infallible cure for fluor albus, and gonorrhoeas of long ſtanding.

Another remedy, mentioned in this treatiſe, which we think alſo deſerves notice, is a tree called Bois de Coiſſi, a name which it is ſaid to have derived from the negro who firſt diſcovered its medical virtues. The root of this tree is eſteemed an excellent ſtomachic, reſtoring the appetite, and aſſiſting digeſtion. But it is chiefly celebrated as an infallible remedy againſt even the moſt inveterate intermittents. It is ſaid alſo to be uſed with great advantage and ſafety in every ſpecies of remittent and continued fever, with patients in all ages and ſexes, and in all conditions, even during pregnancy, and the puerperal ſtate. Before employing it, however, it is eſteemed abſolutely neceſſary to adminiſter either a purgative or emetic. The method of exhibiting it, which is eſteemed the beſt, is that of decoction. For this purpoſe, half an ounce of the bark of the root muſt be boiled in a cloſe veſſel with ſix pints of water, till one half be conſumed. The decoction is then ſtrained off, and a cupful taken every two hours, till the fever be entirely extinguiſhed. Six or ſeven days after a cure is thus performed, it is in general neceſſary to repeat a purgative of any kind.

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Dr Percival at Mancheſter has communicated to ſome of his friends, ſeveral intereſting obſervations on the ſtate of population in the pariſh of Mancheſter, extracted from a paper which is intendtended for the Royal Society. The pariſh of Mancheſter, in the compaſs of leſs than ſixty ſquare miles, comprehends thirty-one townſhips, excluſive of the towns of Mancheſter and Salford. We formerly mentioned, that, laſt ſummer, an accurate ſurvey had been made of the number of houſes, families, inhabitants, &c. in the town. An enumeration, equally exact and comprehenſive, has this ſpring been extended to the whole pariſh. From this, compared with the bills of mortality, it appears, that whilſt, in the town, the yearly mortality is as one to twenty-eight, in the pariſh only one in fifty-ſix dies annually. Such a ſtriking diſparity between the healthineſs of a large town and the country which ſurrounds it, will ſcarcely be credited by thoſe who have paid no attention to ſuch inquiries: And it muſt afford matter of aſtoniſhment even to the philoſopher, when he reflects, that the inhabitants of both live in the ſame climate, carry on the ſame manufactures, and are chiefly ſupplied with proviſions from the ſame market.

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Among the many premiums offered by the ſociety inſtituted at London, for the encouragement

ment of arts, manufactures, and commerce, the following are ſo much connected with the ſubject of theſe commentaries, that we preſume the mention of them will not be diſagreeable to any of our readers who may not have already ſeen the liſt publiſhed by the ſociety.

For raiſing, before the end of the year 1774, the greateſt number of plants, not leſs than one thouſand, of the Rheum Palmatum, or true Rhubarb, the gold medal.

For the next greateſt number, not leſs than five hundred plants, the ſilver medal.

Certificates of the number of plants, that they ſtand at leaſt ſix feet aſunder, and that they have been in a thriving ſtate during the preceeding ſummer, with an account of the ſoil, culture, and aſpect, to be produced on or before the ſecond Tueſday in February 1775.

The ſame premium is extended to the year 1775. Certificates to be produced on or before the ſecond Tueſday in February 1776.

The ſame premium is extended to the year 1776. Certificates to be produced on or before the ſecond Tueſday in February 1777.

For the beſt ſpecimen of Rhubarb of Britiſh growth, equal to ſuch as is commonly ſold in the ſhops, under the name of Turkey Rhubarb, and not leſs than four pounds weight, to be produced, with an account of the culture and cure, on or before the firſt Tueſday in November 1775, the gold medal.

For the next beſt, being not leſs than one pound weight, the ſilver medal.

The ſame premiums are extended one year further; ſpecimens to be produced on or before the firſt Tueſday in November 1775.

To the perſon who ſhall raiſe from the ſeed, the greateſt number, not leſs than one hundred plants, of the Orchis Morio Femina, or common Female Orchis, for the purpoſe of making Salep, the gold medal. Certificates of raiſing the plants, with an account of the method of culture, to be delivered, with a ſpecimen of the roots, on or before the laſt Tueſday in December 1775.

To the perſon who ſhall raiſe from ſeed, the greateſt number, not leſs than one hundred plants, of any of the large rooted Orchis, for the purpoſe of making Salep, the gold medal. Certificates of raiſing the plants, with an account of the method of culture, to be delivered with a ſpecimen of the roots, on or before the laſt Tueſday in December 1776.

To the perſon who ſhall make the greateſt quantity of good merchantable Salep, not leſs than five hundred pounds weight, from any kind of Engliſh Orchis, twenty-five pounds.

For the next greateſt quantity, not leſs than three hundred pounds weight, fifteen pound.

For the next greateſt quantity, not leſs than one hundred pounds weight, five pounds. A ſample, not leſs than ſeven pounds weight, with certificates of the expence and manner of preparing it, to be produced on or before the firſt Tueſday in March 1775.

The ſame premiums are extended one year farther. Certificates to be produced on or before the firſt Tueſday in March 1776.

For the beſt ſpecimen of Kelp, not leſs than one hundred weight, equal in quality to merchantable Spaniſh Barilla, to be produced to the ſociety on or before the firſt Tueſday in January 1775, 1775, together with certificates of its having been made in Great Britain or Ireland; and of the ſea weed commonly called Kelp, or Alga, the gold medal, or twenty pounds.

For the greateſt quantity of merchantable Barilla, not leſs than one ton, made from the Spaniſh Kali, raiſed in Great Britain; to be produced on or before the firſt Tueſday in February 1775, the gold medal, or twenty pounds.

The ſame premium is extended to the year 1775. A ſample of not leſs than twenty-eight pounds weight, with a certificate, that a ton has been made, to be produced on or before the firſt Tueſday in January 1776.

To the perſon who ſhall diſcover in Great Britain, Ireland, or the Britiſh American colonies, and bring into the port of London in the year 1776, the greateſt quantity, not leſs than two hundred weight, of the native Foſſil fixed Alcali, fit for the purpoſes of the ſoap-makers, thirty pounds. A ſample, not leſs than fifty pounds weight, as got out of the earth, with certificates deſcribing the place where found, to be produced on or before the laſt Tueſday in January 1777.

For diſcovering the beſt method of obtaining from ſea ſalt, the Natron, or Foſſil Alkali, in a pure ſtate, fit for the purpoſes to which fixed alkaline ſalts are applied, and at an expence that will not render it too dear to be uſed in bleaching, ſoap-making, dying, and other great works, where pearl-aſh, pot-aſh, barilla, or kelp, are now employed, the gold medal, or fifty pounds. A ſample of fifty pounds weight, and certificates that two hundred weight at leaſt had been manufactured by the candidate; to be produced on or before the third Tueſday in December 1775.

For the greateſt quantity of Black Lead, fit for making pencils, or black melting-pots, not leſs than ſix tons, produced in any of his Majeſty's dominions belonging to the crown of Great Britain, and imported into any port of England in the year 1774, the gold medal, or thirty pounds. Certificates of ſuch black lead being produced in ſome of his Majeſty's dominions belonging to the crown of Great Britain; and alſo certificates from the proper officer of the port of ſuch importation; with ſpecimens of not leſs than fifty pounds weight, to be delivered to the ſociety on or before the firſt Tueſday in February 1775.

For the beſt ſpecimen of glaſs, not leſs than twenty pounds weight, for the general purpoſes of opticians, and ſuperior to any commonly made, to be produced on or before the third Tueſday in December 1774, fifty pounds.

For the beſt method of preſerving the ſeeds of plants in a ſtate fit for vegetation, after having been kept a conſiderable time, ſuch method being ſuperior to any known to the public, and verified by ſufficient trials; to be communicated to the ſociety on or before the firſt Tueſday in December 1674, the gold medal.

For the beſt account, aſcertained by proper experiments, of a method of deſtroying ſmoke at the end, or in the chimnies of fires belonging to large works, or fire-engines, in order to prevent annoyance; to be produced on or before the firſt Tueſday in February 1775, the gold medal.

For an account of the beſt and cheapeſt method of bleaching linen, being an improvement on the methods now in uſe; to be produced to the ſociety with a ſample of linen, not leſs than twenty yards, bleached according to ſuch me-

method, on or before the ſecond Tueſday in February 1775, the gold medal, or twenty pounds.

To the perſon who ſhall cultivate, in any part of his Majeſty's dominions in the Weſt-Indies, the greateſt number, not leſs than twenty-five, of the trees which produce Camphor in the Eaſt Indies, the gold medal, or fifty pounds. Certificates, under the hand of the governor, lieutenant-governor, or chief magiſtrate of the iſland, ſpecifying the number of plants, and that they are in a growing or thriving ſtate, together with a branch of the tree, and ſome of the leaves, to be produced in the ſociety on or before the ſecond Tueſday in November 1776.

To the perſon who ſhall introduce into his Majeſty's dominions in the Weſt-Indies the greateſt number, not leſs than ten, of the Quinquina, or that tree which yields the Peruvian or Jeſuit's Bark, on or before the firſt day of January 1776, fifty pounds. Certificates, under the hands of the governor, lieutenant-governor, or chief magiſtrate of the iſland, ſpecifying the number of plants, and that they are in a growing or thriving ſtate, together with ſpecimens of the bark and branches of the tree, to be delivered to the ſociety on or before the ſecond Wedneſday in October 1776.

The ſame premium is extended one year farther. Certificates to be produced on or before the ſecond Wedneſday in October 1777.

All the premiums of this ſociety are deſigned for England, Wales, and the town of Berwick upon Tweed, unleſs expreſsly mentioned to the contrary. All letters addreſſed to the ſociety are deſired to be directed to Mr Samuel More, the ſecretary, at the ſociety's office, oppoſite to Beaufort-buildings in the Strand, London.

The medical ſociety of London have reſolved to give an honorary gold medal to the author of the beſt diſſertation on fevers. The diſſertations of candidates muſt be delivered to the ſecretary in Crane-court, Fleet-ſtreet, on or before the third Tueſday of April 1775. They muſt be written in a fair hand, and in the Engliſh or Latin language. Along with each diſſertation muſt be ſent a ſealed packet, containing the name of the author, and his place of reſidence; ſome motto or device being written on the out ſide of this packet, and the ſame at the beginning or end of his diſſertation.

This medal will be adjudged on the 5th day of June 1775; after which, all the diſſertations, excepting that which obtains the honorary reward, ſhall be returned, with the packets unopened.

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At a meeting of the American Philoſophical Society on Friday the 21ſt of January 1774, the following new members were elected. The Right Honourable the Earl of Stanhope, the Honourable Lord Mahon, and Samuel More, Eſq; of London; Dr Andrew Duncan of Edinburgh; the Honourable John Ellis, Eſq; the Honourable Brian Edwards, Eſq; and Dr William Wright of Jamaica; Bernard Roman, Eſq; and George Gauld, Eſq; of Penſacola.

At a meeting of the Royal College of Phyſicians in Edinburgh, on Tueſday the 3d of May 1774, Dr Edward Spry of Totneſs was elected a fellow.

On Sunday May 1ſt died at London, Mr William Hewſon, ſurgeon, Fellow of the Royal Society, and teacher of anatomy. From thoſe ingenious publications with which he has already favoured the public, his untimely death will be regreted by every ſincere lover of ſcience.

On Friday the 3d of June died at Dumfries, Dr Ebenezer Gilchriſt, a phyſician eminently diſtinguiſhed for his extenſive practice in the neighbourhood where he lived, and well known to the learned world by many valuable publications.

The following eminent phyſicians and philoſophers have lately died abroad.

At Jena, Dr Chriſtianus Theophilus Mayer, one of the profeſſors of medicine in the univerſity there.

At Dantzick, Michael Chriſtophorus Hanow, profeſſor of natural philoſophy.

At Straſburgh, George Albrecht Fried, ſecond profeſſor of midwifery.

SECT. IV.

Liſt of New Books.

DIſſertatio philoſophica de aëre fixo. Auctor Diderico de Smeth, Amſtelodamo-Batavo, 4to, Utrecht.

Diſſertatio philoſophica, exhibens obſervationes quaſdam de igne, et variis eum reſtituendi modis. Auctore Petro de Smeth, 4to, Utrecht.

Reimarus betrachtungen, *i. e.* Conſiderations on the inſtinct of different animals. By Herman Reimarus, publiſhed by his ſon, with notes, and an appendix concerning the nature of Zoophytes, 8vo, Hamburgh.

Ant. de Haen conſil. et archiat. S. C. R. Majeſtatis, nec non medicinae practicae in univerſitate Vindobonenſi profeſſoris primarii, ratio medendi

di in noſocomio practico. Tomus 8. partem 14. complectens. Accedit ejuſdem auctoris diſſertatio Gallica, cui titulus, Refutation de l'inoculation, 12mo, Paris.

Ant. de Haen ratio medendi, tomus 9. ſiſtens tomum primum rationis medendi continuatae in noſocomio practico. Accedit etiam epiſtola Gallice ſcripta ejuſdem Ant. de Haen ad D. Hirzel, 12mo, Paris.

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PART IV.

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MDCCLXXIV.

MEDICAL COMMENTARIES.

SECT. I.

An Account of Books.

I.

Examen Chymique des Pommes de Terre, dans leſquels on traite des Parties conſtituantes du Bled. par. M. Parmentier, *Apothicaire-Major de l' Hôtel Royal des Invalides.* 8*vo*, Paris.

THE examination, which is the ſubject of this treatiſe, was undertaken with a view of aſcertaining the qualities of a root, to which, though now very generally uſed in aliment, pernicious effects have been aſcribed. As an additional proof of the juſtice of the concluſions in this work, the author obſerves, that, while it lay twelve months in manuſcript, under the examination of delegates from the faculty of medicine in Paris, he repeated his experiments, with preciſely the ſame events, as upon his former trials.

After finiſhing this work, Mr Parmentier preſented it to the Comptroller-general, who delivered it to the faculty of medicine, to be conſidered by them. Accordingly, we find ſubjoined to the preface, a report to the Dean, from delegates appointed for examining it. This report is ſigned by Bercher, Degevigland, Macquer, Roux, Sallin, and Darcet, who give it as their opinion, that the work is executed in a manner highly honourable to the author; and that, in the inveſtigation, neither pains nor expence have been ſpared. They farther recommend, that the faculty return to the Comptroller-general this opinion of Mr Parmentier's publication.

In treating this ſubject, after ſome general reflections, the author obſerves that potatoes were firſt introduced into Europe, about the beginning of the 17th century, by the Iriſh, who brought them from America. At firſt, though uſed in aliment, they were cultivated only in gardens, as a matter of curioſity. Their culture was ſoon after introduced into England, Flanders, and ſeveral other countries. And now they are planted in large fields, ſo as to become a principal part of the aliment of the poor.

Neglecting many differences among potatoes, the author contents himſelf with diſtinguiſhing them into red and white. Among other characters diſtinguiſhing theſe kinds, the former, he obſerves are more viſcid and clammy, and have more taſte than the latter, which, on the other hand, are more mild and mealy. After ſome remarks on the form, growth, and ſtructure of potatoes in general, he obſerves, that thoſe employed in the following experiments were always deprived of the ſhoots, fibres, and earth adhering to them; that they were of the red kind, knotty, of a middling ſize, and of the kidney ſhape.

After detailing a variety of experiments by boiling, he concludes, that the ſurfaces of theſe roots owe their red colour to an acid, and that this alone is the cauſe of their acrid taſte. This he infers from obſerving, that they are acrid in proportion to their red colour; that they become inſipid after it is extracted; and that white potatoes have not the leaſt acrid taſte.

Red potatoes, deprived of their firſt ſkin or epidermis, very readily yield their acrid part, giving a red colour to acidulated water, a purple colour to an alkaline water, and a green colour to pure boiling water.

After theſe obſervations, the author next proceeds to a chemical analyſis of potatoes. On this ſubject he began his experiments, by trying them in Balneo Mariae. When diſtilled in this manner, they yielded only an herbaceous liquor. By diſtillation over a naked fire, in ſtone retorts, two pound of potatoes left only one ounce and ſix drams of reſiduum, which by calcination was reduced to two drams and a half; and this, by ſolution and filtration, yielded one dram of fixed alkali. The remaining matter, after the filtration, weighed only one dram. During the diſtillation, there came over acid, oil, and a herbaceous liquor.

Mr Parmentier's next experiments for diſcovering the conſtituent parts of potatoes, were made by ſubjecting them to preſſure. In this way, the firſt thing he obtained was a large proportion of water, which was of a brown colour and rendered muddy by a ſaline, gummy, or mucilaginous ſubſtance. This is called the eſſential ſalt, and was procured in one experiment in the form of cryſtals, but not ſufficiently regular to enable

nable him to deſcribe them. This ſubſtance ſeems to ſerve as a kind of ſeaſoning or condiment; and it renders the root ſavoury, lighter, and of eaſier digeſtion.

The ſecond part was a white inſipid heavy powder; which, from a great variety of experiments, appears to be ſimilar to the amylaceous matter of wheat. It ſhews the ſame phaenomena as that ſubſtance, when tried by chemical experiments, when uſed for ſtiffening linen, or other purpoſes in arts. The only difference ſeems to be, that the amylaceous powder of wheat is ſomewhat ſpecifically lighter, and leſs tranſparent than that of potatoes.

A third article obtained from potatoes is, a fibrous, light, and gray coloured ſubſtance, inſoluble in water, and with difficulty powdered. This part gives water, with which it is boiled, the conſiſtence of glue; and no amylaceous matter can be obtained from it.

With regard to the proportion of theſe parts, it was found, that one pound of potatoes contained two ounces and a half of amylaceous matter, amidon, or fecula, ſix drams of the fibrous part, and an ounce of mucilaginous extract, all the remaining part being water.

After having thus tried to inveſtigate the conſtituent parts of potatoes, our author's endeavours were next employed in attempting to diſcover a method of converting them into bread. But, before giving his own experiments on this ſubject, he relates what had been done with regard to it by others. Meſſrs. Falguet, Reville, Muſtel, and Come, had made good and wholeſome bread from potatoes, when mixed with the meal of barley, wheat, or rye, in different proportions. Mr Parmentier repeated the experiments, and made a number of other trials, by varying the proportion of the boiled pulp of the root, and of the meal from other grain. But, as great trouble and difficulty attended the uſing the roots in the manner directed by them, from the boiling, kneading, &c. that is required, Mr Parmentier was induced to think of other methods.

Potatoes, previouſly deprived of their ſkin, cut into thin ſlices, and put between paper, will dry in a heat, ſomewhat leſs than thirty-five degrees in Reaumur's thermometer; and, when thus dried, they will preſerve their white colour. By this proceſs they loſe about two thirds of their weight, and they may then be reduced to a fine powder. A little of this powder thrown upon the fire ſends out a ſmoke, accompanied with a ſmell reſembling that of burnt bread. As this ſmell is perceived from all farinaceous vegetables when treated in the ſame manner, Mr Parmentier thinks it may be conſidered as the characteriſtic of the preſence of an amylaceous matter. This ſmell, however, does not, he obſerves, ariſe from the amylaceous or fibrous part ſeparately, but from both taken together.

The powder of potatoes obtained in the manner deſcribed above, has the ſmell and taſte of wheat, and, like it, is devoured by rats and mice; but, even when moſt finely powdered, it has not the feel or brightneſs of flower of wheat, altho', on a chemical analyſis, it yields the ſame products. It is alſo nutritious, and keeps well for a long time.

Finding ſo great a ſimilarity between the meal of wheat and what may be called meal of potatoes, Mr Parmentier next endeavoured to make bread of them, when mixed in different proportions. His trials were made with one fourth, one third, one half, and two thirds of the potatoe meal, the remainder being flower from wheat. Theſe proportions, with the addition of a little ſalt and yeſt, yielded bread which was well taſted, but which had fermented little, was very brown, and covered with hard brown cruſts. Bread made from the meal of potatoes alone, with the addition of ſalt and yeſt, was eatable, but very heavy, unfermented, and exceedingly brown.

This bread from the meal of potatoes alone, was apt to crumble into powder. To give it more adheſion, he mixed with the meal a decoction of bran, or a mixture of honey and water, either of which made it lighter and more fermented; it obtained alſo a cruſt of a golden colour, and became well taſted, and ſufficiently adheſive. Mr Parmentier obtained bread alſo well fermented, and of a good colour and taſte, from a mixture of raw potatoe pulp, with meal of wheat or potatoe meal, with the addition of yeſt and ſalt.

Having before attempted to aſcertain the different conſtituent parts of potatoes, the author next endeavoured to determine how far each of them might be employed ſeparately in making bread when mixed with flower of wheat. All the bread made with different proportions of the fibrous part was leſs inſipid than that from the others, but it was always heavy and black. Bread from the amylaceous part was well fermented and well taſted.

Mr Parmentier does not imagine that the ſtarch of wheat has any advantage over that of potatoes. As a means of ſaving grain, therefore, he propoſes that it ſhould always be made of the latter. And, building upon Mr Baumé's examination of hair powder, he imagines that it might likewiſe be employed for that purpoſe.

Potatoes in any form, when uſed for making bread, are not readily diſpoſed to ferment, without which, bread is very inſipid, and not eaſily digeſted. But Mr Parmentier found, from a variety of experiments, that good bread might be made from equal quantities of flower and potatoe meal. He concludes, therefore, with recommending the mixture of potatoes, in times of ſcarcity, with the flower of wheat, inſtead of employing rye, barley, or oats, as has frequently been done.

When grain is altogether wanting, he recommends the uſe of bread made from a mixture of the amylaceous powder of potatoes, and of their pulp, this mixture being fermented with leaven, or with honey. The meal of this root, when diluted with hot water, acquires a tenacious and glewy conſiſtence. However fair the meal of potatoes may be, it always gives a gray colour to the bread made by mixing it with the flower of wheat. But a mixture of the pulp of patatoes with the flower of wheat, does not produce brown coloured bread.

Mr Parmentier next proceeds to examine, whether potatoes, like wheat, contain a glutinous animal matter; and if they do, whether it be ſimilar to the other. Mr Beccari of the Bolognian academy, was the firſt who ſuggeſted that wheat contained a vegetable amylaceous matter, and a glutinous animal ſubſtance. This opinion has ſince been confirmed by Model, Keſſel-Meyer, Speelman, Roux, Rouelle, and many others. Our author imagined that a ſimilar glutinous matter might be obtained from potatoes, although this was rendered doubtful, from the ſlight degree of viſcidity which the paſte formed from them poſſeſſes, and from their being with difficulty made to ferment. In this attempt he did not ſucceed.

Mr Parmentier repeated Beccari's experiments on the flower of wheat, and found that the glutinous matter he could obtain from it was always in proportion to its coarſeneſs. He found alſo, that bran, deprived of all farina, imparts a glutinous matter to vinegar and ſpirit of wine. Bran, upon a chemical analyſis, yielded a phlegm with the odour of muſtard, an acid, a volatile alkali, and a tenacious animal oil; and the reſiduum, on calcination, gave a ſal marinus. The ſame products, by a ſimilar proceſs, were obtained from the glutinous matter of wheat, when analyſed by itſelf.

The experiments of Beccari and Keſſel-Meyer, upon the nouriſhing part of farinaceous and leguminous ſeeds, had ſhewn that the gelatinous matter is only contained in the farina of wheat. Our author endeavoured to diſcover this matter in ſome kinds of bran that are ſaid not to contain it. For this purpoſe, he, at firſt, followed the ſame proceſs as that uſed with the bran of wheat, by which he got an acid empyreumatic vegetable oil, and at the end of the diſtillation, with ſome violence of fire, a ſmall quantity of volatile alkali and thick animal oil; the reſiduum contained a ſmall proportion of marine ſalt. In this experiment he uſed the bran of rye. He next endeavoured to diſcover it by the means which he had himſelf formerly employed on wheat. But in this way too, he was unſucceſsful; neither did the bran of rye reſemble that of wheat in other experiments.

The glutinous matter of wheat, thrown upon a red hot ſhovel, ſent out the ſmell of the paſte of flower. Expoſed ſuddenly to a great heat, it ſtained the ſhovel as with oil; it ſwelled, grew yellow, then black, exhaling the ſmell of burnt horn. Put into boiling water, it ſwelled a little, and, after two or three boilings, loſt its tenacity, became ſpongy, and was not capable of ſending out the odour upon the ſhovel as before. Among other characters of the ſubſtance, it is not acted upon by diluted mineral acids, ſpirit of wine, or aether, but readily diſſolved by vinegar. This glutinous or animal matter mixed with the farina of different ſeeds, and potatoes, as well as with the amylaceous matter, formed a paſte which fermented well; the bread had a good taſte and colour, and was ſufficiently light. Decoctions of wheat-bran, made into paſte, with different meals, produced a light, digeſtible, and well taſted bread. Bran of other ſeeds had not this effect. However uſeful and neceſſary a ſmall quantity of the bran may be in producing a fermentation, it is found, that a large quantity has a contrary effect.

After theſe obſervations on bran, the author proceeds to conſider the meal of wheat. The more white the meal be, the more amylaceous matter it contains, and the more white, delicate, and nouriſhing is the bread from it. The more brown the meal, the more glutinous matter and bran it contains; and the more ſapid, heavy, and indigeſtible the bread, it is alſo much leſs nouriſhing. White meal is more abſorbent, and ſpecifically lighter than brown. Amylaceous matter is leſs diſpoſed to corrupt than bran; and therefore brown meal ſpoils ſooner than the more white, in a moiſt cellar.

Wheat poſſeſſes one quality more than the grain of other plants; for it is compoſed of *bran*, *glutinous matter*, *fermentable mucilage*, and *ſtarch*. The two firſt are putreſcent and oily, the two latter ſaline; and the one of theſe is diſpoſed to turn acid, the other is not affected by a moiſt atmoſphere.

He next gives the chemical analyſis of each of theſe ſubſtances; and concludes, that, however white the farina be, it contains more or leſs of all the above four ſubſtances.

Mr Parmentier, *laſtly*, made bread, very much like that of wheat, by a mixture of the following four ſubſtances, viz. four ounces of amylaceous powder of potatoes, one dram of mucilage extracted from barley, one dram of the bran of rye, and a dram and a half of glutinous matter dried and powdered.

From the very ſmall proportion of the glutinous matter in vegetables, where it is found, from brown bread being leſs nutritious than white, from its not being found in ſuch a great number of nutritious vegetables, and from the large proportion, and almoſt univerſality of the amylaceous matter in vegetables, our author concludes, that the glutinous matter is not the nouriſhing part of vegetables, but that the amylaceous matter has that property; and that vegetables are nutritious in proportion to the quantity they contain of that ſubſtance. Though we are not to conſider the glutinous matter as the nutritious part of vegetables, yet it is a very neceſſary ingredient. It is that which preſerves the coheſion of the paſte in fermenting bread; it is that which forms the viſcid pellicle, and ſtops the air in fermentation; gives the ſavoury taſte to bread; occaſions it to be light, to ferment, and which forms the ſmall cells ſeen in it. It is found eſpecially near the cortical part of grain; and this accounts for its being obſerved in the greateſt quantity in coarſe brown meal. It is this gluten which renders the wheat a ſuperior aliment to the other grains and roots.

Mr Parmentier made many attempts to produce a beer, or ſpirit, by fermenting potatoes; but without ſucceſs: He promiſes, however, to continue his attempts for that end.

The author next details ſome facts concerning the uſe of potatoes, when employed almoſt alone for aliment, during a very long time; and others concerning their agreeing with people who laboured under ſtomach complaints. In all theſe caſes they afforded a ſalutary and nouriſhing food.

Potatoes are prevented from being frozen, by burying them deep in the earth, and covering them with ſtraw. They do not appear to be injured by freezing, even repeatedly, provided they be gradually thawed. Moiſture appears to be much more deſtructive, as they then ſoon ſprout, and become hard, acrid, and fibrous.

Potatoes can never be uſeleſs: What is not wanted for aliment for men, may be employed for ſtarch, feeding hogs, &c. The ſtalks may be mown before the flowering and ſeeding; and will be eat by cows.

The author next makes ſome remarks on the fecundity of the plant. In the *journal oeconomique* for October 1770, there is an account of one potatoe producing 140; of theſe 24 weighed from 12 to 16 ounces each; 60 were of an ordinary ſize, and the others very ſmall.

M. Elleray having ſown onions, and planted potatoes in March, upon land which he was preparing for other harveſts, finding the onions had failed, cut off the ſtalks of the potatoes, and tranſplanted them upon the land on which the onions had been ſown. By this means he had a double crop, and ſo fine as excited the admiration of all that ſaw it; nor were the roots from which the tops were cut at all damaged.

Mr Parmentier takes notice of the propoſals that have been made by different ſocieties, to encourage the cultivation of potatoes. It appears that they grow with little care in all ſoils, except the argillaceous, and in ſeaſons when other vegetables are deſtroyed.

He next enumerates a great variety of vegetable preparations for food, into which potatoes may be an ingredient, or in which they are the only one. He quotes an authority, that the ſkins of potatoes may be employed for planting, and that it is doubtful if the produce be not equal to that from the roots themſelves. The ſeeds alſo will produce potatoes, but they are ſmall for ſome years.

Mr Engel recommends potatoes of a middle ſize to be uſed for planting, and which have but one eye.

Mr Parmentier next preſents us with an account of the expences, and produce of potatoes, cultivated in two very different ways, by M. Dubois de Saint Hilaire. This gentleman was firſt induced to cultivate theſe roots with the view of feeding hogs, as at that time the country people would not employ them for food. He planted two portions of land, equal in quantity and quality, one by oxen and the plough, the other by men. He details particularly the different operations upon the land of each; and, upon ſumming up the expences, it appears that the expence was by far higher with men, than by the plough and oxen. Mr Dubois affirms that the expence is as 17, with oxen and plough, to 54 with men, and an equal product. But, with reſpect to the products of the two pieces of land above mentioned, it appears that an exceeding ſine crop was produced from the land cultivated with oxen and the plough, and a very poor one from the other. The next year, the ſame lands, and an additional piece, were planted with the plough and oxen, as before, with an exceeding ſine produce. To aſcertain the value of theſe roots, we have the price of hogs ſtated at the time they were put up to feed upon theſe roots, and their value after being fed.

Mr Parmentier again mentions ſome facts, tending to ſhow the wholeſomeneſs of potatoes to all ages: And he gives an account of a variety of diſhes made from potatoes, in different ſhapes and mixtures.

The peaſants reckon the following delicious food. Inſtead of boiling them, they put them into an earthen veſſal, greaſed with butter, and roaſt them in an oven.

Among other preparations of potatoes, are a variety of confectionary goods. The author concludes with an account of an elegant entertainment which he made entirely of potatoes, to which he invited many of his friends.

II.

Medical and Chirurgical Obſervations, as an Appendix to a former Publication, by Benjamin Gooch, *Surgeon, 8vo,* London.

IN the firſt part of this publication, the author gives an account of ſome of the moſt conſiderable epidemics which prevailed in the years 1739, 40, 41, and 42.

In conſequence of a warm ſultry ſummer and autumn, in the year 1739, a fever, of a putrid malignant nature, was produced, of which many died. The pulſe in general was not very quick, but unequal and depreſſed; the blood loſt its cohesion, and, in many, purple or livid eruptions occurred. Blood-letting and purging were found to be almoſt equally prejudicial: And, in general, the cure conſiſted in emptying the ſtomach and bowels with gentle vomits, glyſters, and the mildeſt cathartics. Saline draughts were given with advantage; as alſo ſubacid and aceſcent liquors, ſuch as cyder whey, Rheniſh wine whey, and the like. The bark and elixir of vitriol were likewiſe found to be very ſerviceable. This fever raged about two months, and totally ceaſed upon the coming on of the froſt at Chriſtmas. During the continuance of the froſt, which was extremely ſevere from Chriſtmas till the beginning of February, people in general were healthy; but, upon the thaw coming on, pleuritic and peripneumonic diſorders, with coughs, were very frequent; which, in general, however, yielded to blood-letting and the uſual antiphlogiſtic regimen. Towards ſummer, as the weather grew hotter, a diſeaſe, vulgarly called the mumps, began to appear. It is a febrile diſorder of the inflammatory kind, attended with ſwellings of the face, neck, and throat; the ſkin appearing of a colour ſomewhat deeper than a damaſk roſe, but without pain. Theſe ſwellings ſeldom terminated in abſceſſes; and, when they did ſo, upon opening, they healed kindly by the common treatment. The general antiphlogiſtic method of cure ſucceeded beſt: And when any thickneſs or hardneſs of the parotid or ſubmaxillary glands remained, they yielded readily to ſmall dozes of Merc. dulc. with gentle purges, at due intervals. A liniment of Ung. Caerul. mit. et Linim. volat. was likewiſe of uſe applied to the parts. In five or ſix caſes, treated by the author, a metaſtaſis of the morbific matter to the teſticles took place; and the tumors there were attended with more pain, and removed with more difficulty: But all of them cured without ending in ſuppuration.

Soon after the mumps diſappeared, another epidemic was introduced; a fever which was evidently of the inflammatory kind, and yielded to the general treatment of inflammatory diſeaſes. Blood-letting, in particular, was of the greateſt ſervice. By a letter from a gentleman, then on board the Royal Sovereign, in the bay of Biſcay, we are informed, that this epidemic was not confined to one region or climate, but that it equally prevailed in different latitudes; and that the cure conſiſted in the ſame general mode of treatment. To this inflammatory fever ſucceeded, in May 1742, a malignant one, attended with the gangrenous ſore throat; and which continued to rage in that part of the country for ten years. The patients could not bear blood-letting, purging, or the cool antiphlogiſtic regimen, ſo uſeful in other fevers; but, on the contrary, cordials, alexipharmics, antiſeptic gargles, with preparations of the bark, were found very ſerviceable. Our author, however, declines entering into any particulars of the diſeaſe, it having already been ſo fully treated of by Dr. Fothergill, Dr. Huxham, and Dr. Wall.

After theſe obſervations on febrile complaints, we are next preſented with ſome ſurgical caſes and remarks. The firſt is a caſe of a fracture of the maxilla inferior; which, being improperly treated, produced a caries of that bone: So that it was neceſſary to take out about an inch of the whole ſubſtance of the bone, with one of the dentes canini, and one of the molares, ſtill in their ſockets. The cure, however, was ſoon effected, the ſpace being filled up with oſſeous matter, which became ſo hard and firm as to admit of maſtication without any uneaſineſs.

The two following caſes are fractures of the ſkull; one from a fall, and the other from a muſket-ſhot; both of which, however, did well, with the aſſiſtance of the trepan: And in one, the violence from the fall had been ſuch, as to occaſion a wide ſeparation, the whole extent of the coronal ſuture; and at this part a fluid appearing under the dura mater, it was thought adviſeable to divide it the whole length of the ſuture with ſciſſars, which was from one temporal bone to the other. The operation, however, as was already obſerved, ſucceeded very happily.

The two following caſes are from gun-ſhot wounds, in both of which amputation of the arm was found neceſſary, one at the articulation of the humerus with the ſcapula, and the other at the fractured part of the bone, which too was very near the joint. In the former, the patient died from loſs of blood, the artery not having been properly ſecured. In the latter caſe, the patient was ſeized with a fever, and did not recover. Mr Gooch, here, takes occaſion to remark, that, with a very little attention, the courſe of the blood in the ſubclavian artery can be very eaſily ſtopped, by preſſure upon the clavicle immediately above the little pectoral muſcle; and he thinks, that a machine might eaſily be invented for that purpoſe, which would render amputations at that joint as eaſy as in any other part. The next is a caſe of empyema, from a bruiſe upon the breaſt; which was cured by a perforation into the cavity of the thorax. One of the ribs was found carious, and about two inches of the whole ſubſtance of it extracted. Towards the concluſion of the cure, a rib on the other ſide was fractured by a violent fit of coughing: But of this alſo the patient recovered.

In compound fractures, where ſplinters of bones protrude, we are directed to ſaw off ſuch portions. And a remarkable caſe is here mentioned, of a very bad fracture of that kind, which did well, and in which it was neceſſary to take off above two inches of the whole ſubſtance of the tibia. Another remarkable caſe of compound fracture is likewiſe mentioned, in which a violent haemorrhage occurred from an artery that run in the bony ſubſtance of the tibia; which conſequently could not be compreſſed, and which, from its ſituation, could not be taken up with a ligature. By the author's advice, however, a portion of the bone was taken out with the trephine, which laid the artery bare; by which means it was properly ſecured.

A very remarkable caſe of a ſeparation of the head of the femur from its neck, is next taken notice of. It occurred from a fall upon the great trochanter; but being miſtaken for a ſprain, the caſe was improperly treated; ſo that the limb continued much ſhorter than the other; ſhrunk much from its natural ſize; and the foot and toes continued to be turned outwards. Upon the patient's death, which happened not very long after the accident, the miſtake was diſcovered by diſſection;

tion; and a figure of the appearance is here given by the author. In ſimilar caſes, he would recommend a conſtant gentle extention of the limb, with a plaſter compreſs, or ſome proper pad, ſecured by a roller, ſo as to prevent the end of the bone from riſing out of its natural ſituation.

The author then gives an account of a very ſingular ſwelling of the left ovarium in a woman of 25 years of age, who at that time too was pregnant. In the eighth month, however, being ſeized with violent vomitings, great pain, heat, and tenderneſs of the abdomen, notwithſtanding every thing that was uſed, ſhe died, and without being delivered. Upon diſſection, the uterus was found mortified on the left ſide, with a foetus of a natural ſize and form contained in it, which did not appear to have been long dead. The ovarium on that ſide was of the ſize of a melon, and beginning to be mortified; and on being laid open, it was found to contain a full quart of an antheromatous matter, with a fatty ſubſtance of the ſize of a turkey's egg, having a great quantity of hair intermixed with it, and at the bottom of the ovarium were two irregular bones, in one ſide of which was fixed a perfect inciſive tooth, with an imperfect tooth adjoining; and in the other was a complete canine tooth.---A plate of the whole is exhibited.

The next caſe that occurs, is a very remarkable one, of a gentleman, who, for ſeveral years, had once or twice a year an attack of fever, which, along with other ſymptoms, was attended with a peculiar itchineſs of his ſkin, but particularly of his hands and wriſts, and which ſoon ended in a total ſeparation of the cuticle from theſe parts. It could eaſily be turned off from the wriſts down to the tops of the fingers, and ſo formed a kind of cuticular glove; plates of which we are here favoured with.

A caſe of univerſal emphyſema from a fractured rib, is the next in order. The ſecond day after the accident, a puncture was made into the thorax, which diſcharged a vaſt quantity of air and ſome bloody ſerum: The patient, however, died. There is a caſe mentioned too, which was ſuſpected to be a collection of purulent matter in the cavity of the thorax. The patient having ſome time before that laboured under a peripneumony, which ended in an ulcer of the lungs, and a conſequent ſpitting of matter. An opening, however, being made into the cheſt, nothing but air was found contained; and the patient recovered.

A caſe of a very large incyſted tumor, reaching from the groin, along the labium pudendi, to the anus and hip, is next taken notice of. The whole was extirpated, and a cure obtained. In bronchocele's our author diſſuades from exciſion, as he never ſaw any of them proceed ſo far as to endanger ſuffocation: And he takes notice of two or three caſes that were like to have ended fatally, from the haemorrhage that ſucceeded the operations. In one of theſe indeed, the patient died, eight days after the operation, and evidently from the loſs of blood.

In a collection of matter in the ſinus maxillaris, an opening being made from the mouth, and a canula introduced, a perfect cure was obtained.

The next caſe taken notice of by our author is an opening into the ſtomach, through which the food and drink paſſed in conſiderable quantities, and which had been the conſequence of a tumor ſituated on the region of the ſtomach, which came to a ſuppuration, and burſt outwardly. The patient lived in that ſituation for ſeveral months; and was at laſt carried off by an accidental fever.

Upon diſſection, the ſtomach was found adhering all around the orifice to the peritoneum, which had prevented the aliments from falling into the cavity of the abdomen.

A very bad cancerous caſe in the mouth and parts about, is the next in order. It had proceeded originally from the patient uſing a pipe which had newly come out of the mouth of a perſon troubled with a complaint of the ſame nature. After every remedy had been uſed, and with no ſort of advantage, the corroſive ſublimate was preſcribed; which being perſevered in, a thorough cure was obtained. An opiate was conjoined, which our author maintains prevents the bad effects of that medicine upon the inteſtines.

In a ſhort treatiſe upon cancers in general, which we are here favoured with, extirpation is recommended as the moſt certain practice: And we are told that the author has ſucceeded ſo far in this way, that, independent of ſchirrous tumors of different ſizes from the breaſts of women of all ages, he has actually extirpated, with ſucceſs, many entire cancerous breaſts; two of which had even been for ſome time in an ulcerous ſtate; and the patients had continued perfectly well more than ten years after.

In operations of this kind he adviſes the inciſion to be made very large, ſo that there may be no ſort of riſk of any of the diſeaſed parts remaining; and likewiſe, that an iſſue ſhould be kept open, for a conſiderable time, in the neighbourhood of the part. In ſuch caſes, where operating is not thought adviſeable, when attended with much pain, blood-letting and gentle laxatives are recommended, with the Peruvian bark, and ſaturnine applications externally. Our author has never obſerved any ſort of advantage from cicuta in cancerous caſes.

A very remarkable caſe of an enlarged diſeaſed liver, is the next of importance that occurs. Upon diſſection after death, that viſcus weighed twenty eight pounds, though the patient from whence it was taken was below middle ſize.

A patient complaining of a violent acute pain in the rectum, internal piles were at firſt ſuſpected; but, upon introducing the finger, a ſtone was felt, which being cut upon through the ſphincter ani, was eaſily extracted, though upwards of an inch in length, and of the thickneſs of the little finger. An abſceſs had ſome time before that formed in perineo, which had been opened, and in which it was ſuppoſed this ſtone had been lodged; but having got out of its courſe, it had fixed itſelf in the rectum.

A very ſingular caſe is mentioned, of a man who no ſooner went into the ſun than his ſkin began to be tickled, attended with an uncommon heat; it became ſtiff as leather, and as red as vermilion. Cold bathing and many other remedies were tried, but with no advantage: At laſt, however, a cure was performed by ſmall dozes of calomel, together with lenient purgatives, and a proper attention to the *non-naturals*.

In a nephritic caſe, attended with a vaſt diſcharge of blood from the urethra, feveriſhneſs, conſtant vomiting, and purging; after every thing elſe had failed, a large doze of ſolid opium had the effect to ſtop the vomiting, procured, ſleep; and the patient thereby recovered.

A remarkable caſe of a man who never ſleeped, is taken notice of in a letter from the author's friend at Madrid. The perſon enjoyed a very good ſtate of health till his death, which happened in the 73d year of his age. He had a kind of dozing for about a quarter of an hour, once in the 24 hours; but even that was not ſound, tho' it was all the ſleep he was ever known to take.

In a letter from Dr Monſey to the author, is narrated the hiſtory of a caſe of palſy of the left arm, attended with a very acute pain, extending from the thumb up to the middle of the humerus, where it ſtopped. Almoſt every ſort of medicine and application had been made uſe of, but with no effect; and the only thing that afforded any relief was gentle tapping juſt at the junction of the laſt vertebra of the neck with the firſt of the back. At laſt, however, rattle ſnake wine was ordered, which happily produced a cure. In the ſame letter too, we are informed of a caſe of leproſy cured by this medicine.

In a letter to the author from Mr Revans ſurgeon at Haleſworth, is deſcribed a very ſingular caſe of a puncture through the cranium, in a child, by a pair of ſharp pointed ſciſſars, into which a probe could eaſily be introduced full two inches, and from whence was diſcharged a vaſt quantity of ſerum, for ſeveral days, at the rate of thirty-ſix ounces in the twenty-four hours. Upon the ſtopping of this diſcharge, the child was ſeized with drowzineſs, convulſions, &c. when it was thought adviſeable to apply the trepan, which however, did not produce any diſcharge of ſerum; nor did opening the dura mater have that effect.

At the time of writing this letter, however, the child was in good health, and the wound looked well.

III.

Traité d'Odontalgie, ou l'on préſente un Syſtême nouveau ſur l'Origine et la Formation des Dents, une Deſcription des differentes Maladies qui affectent la Bouche, et les Moyens de le guerir. Par Pierre Auzebi, *Dentiſte à Lyon*, 12*mo*, Lyons.

TO this work are prefixed many ample recommendations of it, by a number of phyſicians of the firſt eminence at Lyons, who extol it for its ingenuity and merit. From the following account our readers may be enabled to judge how far it is entitled to ſuch encomiums. It conſiſts of eight chapters; in the firſt of which we are preſented with the anatomy of the mouth.

In the ſecond, Mr Auzebi gives a new idea of the origin and formation of the teeth. He refuſes that the opinion of the growth of bones in general, as depending on the extention and developement of membranous germs, can be applied to the teeth. In whatever period of growth a bone be examined, the ſame form is obſerved in it, and all its parts are developed at the ſame time, in due relation to one another. On the contrary, the parts of a tooth are formed in ſucceſſion; and, according to our author, one part acquires its whole bulk, while another is yet unformed. He farther obſerves, that in caries of bones, the carious part, in conſequence of the oſcillations of the veſſels in the ſound bone below, falls off, and gives place to a new growth. Whereas, in the teeth, if the enamel be broken, they become carious, like other bones; but this caries continues its progreſs; and no remedy can ſeparate the ſound part from the unſound. This, he imagines, is a proof that there are neither fibres nor veſſels in the ſubſtance of the teeth; and he concludes, that they muſt have a different conformation from other bones.

After theſe obſervations, Mr Auzebi proceeds to give his own ſyſtem of the formation of the teeth. But, previous to this, he obſerves, that the lymph can, of itſelf, form hard and ſolid bodies, eſpecially when in a ſituation where it is expoſed to the action of heat. By this means, he imagines the ſeroſity will be evaporated, and there will remain only ſuch parts as, by a proper poſition of their ſurfaces, can join and unite ſtrongly with each other. In his opinion, therefore, all that is neceſſary is, to ſhew how the ſecretion of lymph is made into the ſockets, and in what manner the lymph takes invariably the form of different teeth. To account for this Mr Auzebi obſerves, that the nerves and veſſels of the teeth, having advanced as far as the middle of the ſockets, join together, forming a kind of cord, and afterwards loſe themſelves upon a muſculo-membranous veſicle, which anatomiſts have called chorion, and which they have in general ſuppoſed to be the germ of the teeth. He imagines, that the arterial ramifications, which end at this veſicle, depoſit into its cavity a certain quantity of blood, which not being carried off ſo quickly as it is brought, is under a continued preſſure.

From this preſſure, he affirms two different effects follow. *Firſt*, the blood dilates and opens the pores of the membrane which compoſe the veſicle, and by this means, fits them to receive the lymph, which, as being the vehicle of the red part, is in its nature a very fine fluid. And, *ſecondly*, the veſicle, by its contraction compreſſing the blood, accelerates the ſeparation of the lymph, and forces it to paſs through its pores, which from their ſmallneſs, will not admit the red globules. He ſuppoſes that the lymph thus ſepararated and forced out of the veſicle, is poured into the ſocket, where it hardens, and by degrees forms the teeth. According to our author, therefore, it is not by the root that the teeth begin to be formed; but by the oppoſite end, and even by the enamel; which, after acquiring its full extent, becomes thicker, by new ſtrata applied internally, till the body of the tooth be completely formed. After this, the oſſeous juice continuing its courſe into the ſocket, and finding no more room, diffuſes itſelf under the veſicle; and after covering it, ſurrounds the cord of veſſels belonging to the tooth, and forms a ſmall ſpindle, which reaches to the bottom of the ſocket, and is what is called the root of the tooth. The number of roots, therefore, which any tooth has, will correſpond to the number of cords which ended in the veſicle.

With regard to the figure of the teeth, our author obſerves, that it depends upon the interior configuration of the ſocket, and ſome other circumſtances. He ſuppoſes, for example, that the inciſores are flat, becauſe the jaws are very thin at the anterior part. They are thin, and cut horizontally at their extremities, becauſe, from the mouth being ſhut, and the gums preſſing mutually on each other, they are forced to take a level form. The canini are pointed, becauſe, from the riſe of the inciſores, this preſſure is prevented. The molares have ſeveral inequalities, which depend on the diſpoſition of the gum, and of the other parts to which they are applied.

This theory of the formation of the teeth, Mr Auzebi obſerves, is ſupported by the inſpection of the teeth of a large animal, ſuch as a calf newly killed; and by the calcination of the teeth, which diſcovers neither the ſmall cells nor poroſities obſervable in other bones formed originally from ſimple membranes.

In the third chapter, the author treats of the cutting of the teeth, and of the means to be uſed for the prevention of thoſe accidents which ſometimes attend it. His remarks on this ſubject are chiefly confined to the frictions that are uſed either by the finger, or any other means, with a view to promote the cutting of the teeth. Theſe practices he condemns, as hurtful, from the calloſity which they induce, by that means rendering the gum more difficult to be cut afterwards.

To remedy this, he adviſes, that whatever is uſed to rub the gums with be rough on the ſurface, becauſe, from friction, with a ſubſtance of this nature, the gums are diſpoſed to ſeparate.

The fourth chapter contains an account of the ſhedding of the teeth; of their being replaced; and of the error that has been entertained, that the firſt teeth have roots. Here Mr Auzebi obſerves, that, as in early life the humours are leſs charged with ſaline and terreſtrial particles, the teeth in children cannot be ſo ſtrong as in adults. Hence the firſt teeth, deſtined to grind tender aliment only, become inſufficient to bruiſe what is more hard and tough. Thus, they are ſhaken by the frequent ſhocks they receive, and when they are once looſe, their falls becomes inevitable, becauſe they cannot be moved without ſeparating from the veſicular membrane which furniſhes their nouriſhment; and becauſe, when they are ſeparated from this membrane, the lymph deſtined to form their roots, can no longer adapt itſelf to them, ſo as to conſtitute one ſolid body. By this means it overflows, and diffuſes itſelf into the cavity which ſerved as a mould to the firſt tooth, and becomes the rudiments of a new one, infinitely more ſtrong and ſolid.

This new tooth, formed in the bottom of the ſocket, when it has acquired a certain bulk, neceſſarily puſhes out the firſt tooth. The ſhedding of the teeth, Mr Auzebi obſerves is, beſides this, much forwarded from the firſt teeth having no roots. This opinion he ſupports, in oppoſition to moſt dentiſts, upon the principles he has adopted of the formation of the teeth; that the baſe is firſt formed, and that the root is the laſt part of the tooth which is completed.

Mr Auzebi obſerves, that it is not always proper to pull a firſt tooth, when it has remained a conſiderable time after it ought to have been ſhed. When this happens, the probability is, that roots have been formed to it, in which caſe, there is little chance of a ſecond ſucceeding it. And, even when it is thought neceſſary to pull a firſt tooth, it ought to be done with the greateſt caution, leſt the veſicular membrane be hurt, upon the ſafety of which our author thinks the growth of the ſecond tooth entirely depends. When ſeveral of the firſt teeth, next to each other, have fallen at once, and the ſecond teeth ſeem to be coming in a bad direction, he adviſes that the vacant ſpaces be filled up with pieces of ivory, ſhaped on purpoſe, by which means the teeth will be kept in a proper ſituation.

In the ſixth chapter, the author gives an account of the methods uſed for replacing ill arranged teeth, by means of plates of metal, and of threads, applied differently, according to the diſpoſition of the teeth. He next treats of caries in the teeth, the conſequence of ſcurvy, and he gives a general view of ſcurvy, as affecting the whole ſyſtem. He obſerves, that however the teeth may differ in ſtructure, from the other bones, the caries which affects them is the ſame, in both ariſing from the ſtagnation of a fluid which ought to circulate. When a tooth is carious, he recommends that the whole of the affected part ſhould be removed with an inſtrument, and that the opening ſhould afterwards be ſtopt as cloſely as poſſible, with gold-leaf or lead.

IV.

Détail des Succès de l' Etabliſſement que la Ville de Paris a fait en faveur des Perſonnes noyées, avec les différentes Inſtructions qui y ſont relatives, et la Maniere dont on doit faire Uſage des Objets contenus dans la Boîte, ou ſe trouvent reunis les principaux ſecours qu'on doit adminiſtrer aux Noyés. On y a joint une notice chronologique des differents Ouvrages publies ſur cette matiere depuis 1700. *Par.* M. P. A. 12*mo*, Paris.

REpeated experience has put it beyond all doubt, that many, ſuppoſed to be dead, from being immerſed in water for a conſiderable time, may be recovered by the application of proper means. This has induced different ſtates in Europe to adopt ſuch plans as they judged beſt calculated for a purpoſe ſo valuable. And in the treatiſe now before us, we are preſented with an account of the ſucceſs which has attended the eſtabliſhment in the city of Paris, a place where accidents from drowning frequently happen.

A ſimilar treatiſe is propoſed to be publiſhed every year, that the advantages reſulting from this eſtabliſhment may be the more evident.

The hiſtories with which we are here preſented, are divided into three claſſes. The *firſt* contains an account of drowned perſons recovered by the aſſiſtance given them; of the nature of the aſſiſtance which they received; of the time which they had been under water; of the time which was employed in their recovery; and, *laſtly*, of all the different means of cure which were uſed. In the *ſecond* claſs, an account is given of the time of the ſubmerſion of thoſe who, after being taken out of the water, had the means of cure employed without ſucceſs. And, in the *third*, are enumerated thoſe caſes on which no trials were made, becauſe they evidently appeared unneceſſary.

In the firſt claſs, we are preſented with twenty-three caſes. One recovered after being three quarters of an hour under water, four after half an hour, and three after a quarter of an hour. All the reſt were taken out immediately upon falling in; yet, in every caſe, the patient was deprived of ſenſe and motion.

In the ſecond claſs, five caſes are given, where the remedies, though tried, had no effect. One of theſe patients had been under water for an hour and a half, two for an hour, and one for three quarters of an hour. In this caſe, the remedies had ſo much effect that the patient received extreme unction. The time for which the fifth patient had been under water was unknown.

In the third claſs we have two caſes only. Each of theſe patients had been in the water for twelve hours. From the flexibility of their joints, the author imagines, that, had remedies been properly applied, it is not impoſſible they might have been recovered.

After ſome account of the remedies uſed by others, the author next mentions thoſe which are ordered to be employed in the city of Paris, Theſe are as follows:

1. The wet cloaths are to be taken off as ſoon as poſſible; the patient muſt then be well rubbed with warm flannel, and afterwards kept warm before the fire, or put into a warm bed, which, where it can be had, is preferable.

2. Air muſt be blown through a pipe into the mouth, taking care that the noſtrils be at the ſame time ſhut.

3. Injections of tobacco ſmoke muſt be thrown up the anus, by a machine fitted for that purpoſe.

4. The noſe and throat muſt be irritated with a feather, ſnuff, or a little ſternutatory powder; and volatile alkali muſt be held to the noſe.

5. The whole ſurface of the body muſt be well rubbed with flannel, dipped in camphorated ſpirit of wine; and, if it be imagined that the patient can ſwallow, he muſt be made to take one or two ſpoonfuls of the ſame liquor.

6. All theſe means of cure muſt be continued for a long time: Perſeverance is abſolutely neceſſary; and it is often only after two or three hours of uninterrupted labour that the firſt ſigns of life appear.

The adminiſtration of theſe remedies, in the city of Paris, is intruſted to the guard ſoldiers, who have printed copies of the above directions, and have the medicines and neceſſary inſtruments in a box, by which means they can be eaſily tranſported, ſhould an accident happen at any diſtance. A premium is given to the firſt perſon who gives information that any one has fallen into the water, and likewiſe to the ſoldiers adminiſtring the remedies, who have beſides every other expence defrayed.

This treatiſe is concluded with a chronological account of all the different books and eſſays that have been written upon the ſubject of recovering drowned perſons.

V.

Experiments and Obſervations on the Mineral Waters of Philadelphia, Abington, and Briſtol, in the Province of Penſylvania. Read June 18. 1773, *before the American Philoſophical Society held at Philadelphia, by* Benjamin Ruſh, M. *D. Profeſſor of Chemiſtry in the College of Philadelphia.* 8vo, Philadelphia.

IN the treatiſe now before us, Dr Ruſh propoſes, firſt, to give the chemical hiſtory of the waters of Philadelphia, Abington, and Briſtol in America; then to mention ſome of the diſeaſes in which they are uſeful; and, laſtly, to ſubjoin ſome directions, with regard to their uſe.

The water of the Philadelphia ſpring, freſh from the pump, has a ſlight fetid ſmell, is ſomewhat turbid, and after being expoſed for a few hours to the air, it depoſites a yellow ſediment. Its ſmell is increaſed by reſt; it has a ſtrong ferruginous taſte; and its ſpecific gravity is to that of rain-water, as 1000.45 to 1000. The Abington water has a ferruginous taſte, and, by expoſure to the air, becomes turbid, depoſiting a yellow ſediment. Its ſpecific gravity is to that of rain-water, as 1000.90 to 1000 The Briſtol water is tranſparent, but depoſites a yellow ſediment upon ſtanding a few hours in the open air; it has a ferruginous taſte; and its ſpecific gravity is preciſely the ſame with that of rain-water. All theſe waters are emetic, purgative, or diuretic, according to the conſtitution of the patient with whom they are employed, or the quantity taken into the ſtomach. They likewiſe quicken the pulſe and promote perſpiration.

The reſult of twenty-one experiments made upon theſe waters in the way of mixture, gives the following concluſions. They contain no alkaline ſalt: They are free from any large quantity of ſaline or calcareous matter: They contain no acid in a ſimple ſtate: They all contain iron, which Dr. Ruſh imagines is diſſolved in them, without the aſſiſtance of an acid, an alkali, or fixed air; hence he concludes, that iron is in ſome degree ſoluble in ſimple water. The quantity of iron, he obſerves, which is found in theſe and all other chalybeate waters, varies according to the ſeaſon of the year, the time in which they are drawn from the ſpring, and the degree of calcination the iron has undergone.

One quart of Philadelphia water yielded, upon evaporation, three grains of an iron ochre, and one of an earthy ſalt, which ſeemed to be compoſed of vitriolic acid and magneſia alba. Three quarts of Abington water, upon evaporation, gave half a grain of common ſalt and ſix grains of iron. One quart of Briſtol water yielded, by evaporation, one grain of iron, and one of common ſalt.

In the ſecond chapter, the author proceeds to mention the diſeaſes in which theſe waters are uſeful. He recommends them in hyſteria; in palſy, where the pulſe is not full, and where the ſymptoms of plethora are wanting; in the gout, when it comes on in the decline of life; in old diarrhoeas, unattended with gripes or a diſcharge of blood; in want of appetite, owing to a defect in the ſtomach; in cholics ariſing from mere weakneſs of the bowels; in obſtructions of the liver and ſpleen, whether ariſing from indolence, intemperance, or intermitting fevers; in dropſy, but there they muſt be employed in larger quantities than in other diſeaſes, and continued only while they operate by urine and ſtool; in chronic rheumatiſms; in the piles; in female obſtructions and weakneſſes; againſt worms; in cutaneous diſeaſes; in ulcers, whether ſcorbutic or ſcrophulous; in diſeaſes of the kidneys and bladder; and in obſtinate gleets.

The author cautions againſt their uſe in hypochondriaſis, in moſt caſes of haemorrhagy, in acute rheumatiſm, in gout during the prime of life, and in all diſeaſes where an inflammatory diatheſis prevails.

In the third chapter, which concludes this work, Dr Ruſh gives his opinion concerning the method in which theſe waters are to be uſed. He adviſes, that they ſhould be drunk at the fountain head in the morning, at noon, and in the evening, to the quantity of a gill or half a pint at firſt, by people of delicate conſtitutions, gradually increaſing the doze, to the quantity of five or ſix half pints in a day, and uſing always ſome gentle exerciſe, immediately after drinking them. If the ſtomach cannot bear them by themſelves, cinnamon or mint water ought to be added to them; and if they do not keep the belly gently open, laxatives muſt be employed for that purpoſe. They may be drunk for ſeveral months, in any ſeaſon of the year, eſpecially in ſpring, autumn, and ſummer. During their uſe, the patient ought to be very ſtrict with regard to the quantity of his diet.

This treatiſe is concluded with a view of the comparative efficacy of theſe waters. Dr Ruſh prefers thoſe of Briſtol and Abington, on account of the free air and exerciſe which can be enjoyed at the ſame time that the waters are drunk.

VI.

An Extract of a Letter from Dr Nooth *to* Dr Franklin, F. R. S. *on ſome Improvements on the Electrical Machine. Vid. Philoſophical Tranſactions, Vol.* 63. *Part.* 2. 4*to*, London.

THE author of this paper introduces his obſervations, by remarking, that, while conſiderable improvements have been made in the ſcience of electricity in general, the electrical machine has hitherto remained in an imperfect ſtate.

To diſcover the cauſe of the uncertainty in the action of electrical machines, Dr Nooth's attention was firſt directed to the appearances produced by a machine in motion, and to the effects which the glaſs and rubber had on each other. He conjectured that part only of the electrical fluid, excited by the friction, was carried to the glaſs in motion. This ſuppoſition ſuggeſted an experiment, the event of which ſufficiently proved that the greateſt part of the excited fluid was, in general, reabſorbed by the fore part of the cuſhion, without becoming ſenſible on the ſuperior part of the glaſs. This fact being aſcertained, he next attempted to diſcover ſome method of preventing the return of the electrical fluid, till it made a revolution upon the globe. After many trials, he found that this might be effected by the interpoſition of ſilk, rubbed over with bees wax, between the fore part of the cuſhion and the globe. When the ſilk was ten or twelve times doubled, all communication between the glaſs and the cuſhion ſeemed to be prevented, and the power of the machine was greatly increaſed.

Having remedied a defect in the anterior part of the cuſhion, attention was next paid to the poſterior part of it. As this is the part alone concerned in excitation, the object was to render the afflux of electric matter as great as poſſible, by the application of the moſt perfect electrics. This end was obtained by confining the amalgam to that part where the glaſs firſt comes in contact with the rubber; and then making a communication, by tin-foil, between the amalgam and the metallic plate, below the cuſhion; or, what anſwered better than the tin-foil, by fixing a piece of leather, covered with amalgam, to the poſterior part of the rubber, in ſuch a manner as to allow about an inch of it to paſs under the cylinder. By either of theſe means, the electric matter found an eaſy acceſs, and the power of the machine was incredibly augmented.

From theſe experiments, the author obſerves, that it ſhould be an invariable rule, in the conſtruction of all electrical machines, to place non-conducting ſubſtances at the fore part of the cuſhion, and conducting ſubſtances at the poſterior part of it. With this intention, variouſly conſtructed rubbers may be employed; but the moſt powerful excitants which Dr Nooth has tried, were made of ten or twelve doubles of ſilk, ſtuffed with hair. The ſupport of the cuſhion alſo, our author obſerves, ſhould have its conducting and non-conducting ſide. For this purpoſe, he adviſes, that it ſhould be made of baked wood, having the poſterior part of it covered with tinfoil.

Dr Nooth concludes this paper with ſome obſervations reſpecting the diſpoſition of the amalgam. To make it adhere to the poſterior part of the rubber, he recommends that it ſhould be mixed with pomatum, and that a little hair-powder ſhould be ſtrewed on during the revolutions of

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the glaſs. By attention to theſe principles, he affirms that the electrician has nothing to fear from the humidity of the atmoſphere, and that the machine will work equally well in all kinds of weather.

VII.

Account of a new Hygrometer, by M. J. A. De Luc, *Citizen of Geneva, F. R. S. and correſpondent Member of the Academies of Paris and Montpellier. Vid. Philoſophical Tranſactions, Vol.* 63. *Part* 2. 4*to*, London.

THE plan which Mr De Luc propoſes to follow in this paper is, to relate the means by which he attempted to improve the hygrometer, and the obſtacles he met with; the means by which he endeavoured to overcome theſe difficulties; the degree of perfection at which he has arrived; the hopes he has of farther improvement; and the uſes which may be derived from his firſt experiments.

According to our author, the eſſential requiſites of a hygrometer are, 1*ſt*, The ſettling a fixed point, from which every meaſure of the ſame kind ſhould be taken, analogous to that of boiling water with the thermometer, when the barometer is at a certain height. 2. The aſcertaining degrees equally determined, or comparable in different hygrometers, as in the thermometer. 3. Conſtancy in the variations produced by the ſame degrees of humidity. An inſtrument, with theſe conditions, he ſuppoſes, will enable obſervers to underſtand one another, when ſpeaking of different degrees of humidity.

In attempting to aſcertain the firſt point, he conſiders the hygrometer itſelf, and the phaenomena humidity operates. He endeavoured to find a fixed point in the extremes of dryneſs and moiſture, and in the intermediate degrees. His attempts to eſtabliſh it in the extreme of dryneſs and the intermediate degrees were fruitleſs. At laſt, after much reflection, water occurred to him as the extreme of humidity, or what he afterwards expreſſes by the term humor. The ſtate, in which the water was uſed, was that of melting ice. This principle being eſtabliſhed, his attention was next directed to the hygrometer itſelf. He firſt endeavoured to diſcover a ſubſtance that was affected by humor, without being altered by it. He found that ivory, in a particular manner, poſſeſſed this quality. The next object of attention was, to diſcover the form beſt fitted to be acted upon by humidity. After repeated trials, he found, that a hollow cylinder, the variations in the capacity of which, when more or leſs moiſt, he could meaſure with quick-ſilver, was beſt adapted for the purpoſe. To this ivory tube, he fitted a glaſs one, the riſing or falling of the mercury in which, ſhewed that the ivory tube was more or leſs deprived of moiſture.

The next difficulty was to find out a way of eſtimating the changes of capacity in the ivory tube, by means of the variations of the height of the mercury in the glaſs one. This he perceived might be effected by applying to his hygrometer a thermometrical tube already graduated, by means of two fixed points. It would then be neceſſary only to know the proportion of the weights of mercury in this thermometer, and the hygrometer to which it was applied, that degrees in this laſt inſtrument might be as well determined as in the firſt.

Every principle being thus ſettled, it now only remained to invent the conſtruction of the inſtrument. Of this we have next a particular account, together with a plate and explanation of it. He then relates his firſt obſervations made with this hygrometer, and his experiments, with a view of diſcovering the accuracy of the inſtrument. From this, it appears, that the difference of four hygrometers, expoſed in places where humidity may be ſuppoſed to have had equal acceſs to them, was uſually from 19 to 21. And the different inſtruments did not always preſerve the ſame proportion to each other.

The author next preſents us with ſome conſiderations on the degree of accuracy which this inſtrument has obtained. Though its defects evidently appear, yet he obſerves that they are not more conſiderable than thoſe of the barometer and thermometer, when theſe inſtruments firſt came out of the hands of their inventors; and as their defects are now ſurmounted, we ſhould not deſpair of remedying thoſe of the hygrometer.

The author next points out his views for the improvement of this inſtrument. Theſe are as follows: 1. The ivory pipes ſhould always be exactly of the ſame thickneſs, and turned upon braſs cylinders. 2. The texture of the ivory ſhould be the ſame, in the whole circumference of the pipe; and, as there is often a difference in the organization of different parts of the ſame tooth, an homogenous part ſhould be choſen, that which is moſt ſo being in general between the center and the ſurface, at ſome diſtance from the apex. 3. The ivory pipe ſhould be perforated exactly in the direction of its fibres. 4. Attempts ſhould be made to make the degrees of the hygrometer correſpond with equal degrees of moiſture; for this purpoſe, ſome ſubſtance, very greedy of moiſture, ſhould be placed in very exact ſcales near the hygrometer, and its augmentation or diminution of weight compared with the variations in the inſtrument. 5. To determine the preparation which ivory pipes muſt undergo, in order to acquire a laſting degree of conſiſtence, old hygrometers ſhould be compared with new ones, to know if they have undergone any alteration, and in what degree. 6. In fixing the extreme of humidity, care ſhould be taken that the ice be free from duſt. Laſtly, inquiry ſhould be made, whether there be not a difference between the effects of heat upon the ivory of the hygrometers and upon the glaſs of the thermometer, ſenſible enough to be attended to in correcting the effects of this cauſe upon the hygrometer.

After this, Mr De Luc gives a detail of ſome obſervations made with his hygrometer. One of theſe, he thinks, throws ſome light on the phaenomena of dew. When the ſky is cloudy, there is little or no dew, and the air is not ſo much cooled immediately after ſun-ſet. This phaenomenon, the author accounts for in the following manner. When there are no clouds in the air, the heat of the inferior air, and that which riſes from the earth, diſſipates itſelf into the ſuperior regions, and then the vapours which are diſperſed throughout the air, condenſe and fall down in dew: But when the clouds continue, they ſeparate the inferior from the ſuperior air; and thus prevent the diſſipation of the heat, by which means the vapours remain ſuſpended. When the ſky grows cloudy, ſome hours after ſun-ſet, although the heat has been ſenſibly diminiſhed, it is again increaſed; becauſe, continuing to riſe out of the earth, it is accumulated in the inferior air. Mr De Luc here takes it for granted, that the moſt common and plentiful dew proceeds from the air, and not, as ſome have ſuppoſed, from the earth.

Another obſervation, which, as being connected with medicine, the author thinks it worth while to mention is, that, from the reſult of his trials with the hygrometer, in warm water, it appears, that, when an equal quantity acts, the war-mer the water is, the more it ſeparates the particles of thoſe bodies which it pervades.

VIII.

Of the Electric Property of the Torpedo, in a Letter from John Walſh, Eſq; F. R. S. *to* Benjamin Franklin, Eſq; L. L. D. F. R. S. and Ac. R. Par. Soc. Ext. *&c. Vid. Philoſophical Tranſactions, Vol.* 63. Part 2. 4to, London.

THE information which this paper contains concerning the torpedo was ſent by the author in two letters to Dr Franklin. In the firſt letter, which was written from Rochelle, and dated the 12th of July 1772, Mr Walſh obſerves, that the torpedo is electrical, and that its electricity is conducted and interrupted by the ſame bodies as artificial electricity: That the back and breaſt are in different ſtates, ſo that a ſhock took place on a communication being eſtabliſhed between them; but no effect was produced when they were touched with wax or glaſs. The numbing ſenſation, which this animal occaſions, can be exactly imitated by a charged phial. No ſpark has ever been obſerved to accompany the ſhock from the torpedo; and of at leaſt 200 ſhocks, not above one extended higher than the elbow. This animal can give forty or fifty ſucceſſive ſhocks when inſulated, and theſe with little or no diminution in their force. The experiments which ſhewed theſe phaenomena were made chiefly in the open air.

In the ſecond letter, which is dated at Paris the 27th of Auguſt 1772, Mr Walſh informs that he ſpent a week at the Iſle of Ré in making experiments on this animal. He found that the vigour of the freſh taken torpedo was not able to force the electrical fluid through the ſmalleſt tract of air; not even through an almoſt inviſible ſeparation made by the edge of a pen-knife in a ſlip of tin-foil paſted on ſealing wax; and the ſpark could not be diſcovered even in darkneſs.

The effect produced by the torpedo, when in air, appeared, on many repeated experiments, to be about four times as ſtrong as when in water. During Mr Walſh's ſtay at Rochelle, he made ſome publick exhibitions of his experiments. A narrative of what paſſed was inſerted in the French gazette, and he now avails himſelf of this teſtimony to the facts he has advanced, by giving a tranſlation of that narrative.

Before our author left the ſeas which abound with this ſingular animal, he reſolved ſtill farther to examine its electric powers, when acting in water. A large torpedo, very liberal of its ſhocks, being held with both hands, by his electric organs above and below, was briſkly plunged into water, to the depth of a foot, and inſtantly raiſed an equal height into the air. He was thus continually plunged and raiſed for the ſpace of a minute. At the inſtant his lower ſurface touched the water, in his deſcent, he always gave a violent ſhock; and another ſtill more violent at the inſtant of quitting the water, in his aſcent. Both theſe ſhocks, particularly the laſt, were accompanied with a writhing in his body, as if he meant to force an eſcape. Excluſive of theſe two ſhocks on the ſurface of the water, which may yet be conſidered as delivered in the air, he conſtantly gave, at leaſt two, when wholly in the air, and conſtantly one, ſometimes two, when wholly in the water. The ſhocks in the water, however, were much weaker than thoſe in the air.

A torpedo in water being touched on his electric organs with one hand, while the other hand was at ſome diſtance in the water, communicated a ſhock to both at the ſame time. From this, and other experiments, the author concludes, that bodies immerſed in water may be affected by immediate contact with the torpedo; that the ſhorter the circuit in which the electric fluid has to move, the greater will be the effect; and that by the intervention of ſome ſubſtances, the ſhock may be communicated from the animal in water to perſons in air.

Mr Walſh obſerves, that the power of this animal in exciting electricity, reſides in what he calls its electric organs alone; the reſt of its body being no otherwiſe concerned in this effect than as conducting electricity. Theſe parts ſeem to be in ſuch a manner ſubject to the will of the animal, that their upper and under ſurfaces, when in a ſtate of equilibrium with reſpect to electricity, are capable, from its mere energy, of being thrown inſtantly into an oppoſition of plus and minus, analogous to the condition of the charged phial. When the electric organs of the torpedo are thus charged, the upper ſurfaces of the two are in one ſtate of electricity, and the under ſurfaces in an oppoſite ſtate. In proof of this, Mr Walſh obſerves, that no ſhock can be obtained by an inſulated perſon, touching both organs above or both below, and that the production of the effect depends ſolely on an intercourſe being made between the oppoſite ſurfaces of the organs, whether taken ſingly or together.

From all that has been ſaid, the author concludes, that the effect of the torpedo evidently proceeds from a particular modification of the electric fluid; and he finiſhes this paper with anſwering ſome objections that may be brought againſt the ſuppoſition. Theſe are, that the charged phial occaſions attractive or repulſive diſpoſitions in other bodies; that its diſcharge is obtained through a portion of air; and that it is accompanied with light and ſound; nothing of which occurs with reſpect to the torpedo. Theſe difficulties he ſolves, by ſhewing, that the ſame quantity of electric matter, according as it is uſed in a denſe or rare ſtate, will produce different conſequences.

To this ingenious paper by Mr Walſh, are ſubjoined ſome anatomical obſervations on the torpedo, by Mr John Hunter. At the deſire of

Mr Walſh, Mr Hunter undertook to diſſect and examine the peculiar organs, by which the torpedo produces its electrical effects.

The torpedo is of the family of the Rays, nor does it differ materially from the others in its general ſtructure and anatomy, excepting in its electric organs. Theſe are ſituated on each ſide of the cranium and gills, reaching from thence to the ſemicircular cartilage of each great fin, and extending longitudinally, from the anterior extremity of the animal, to the tranſverſe cartilage which divides the thorax from the abdomen. They conſiſt wholly of perpendicular columns of different ſhapes, reaching from the upper to the under ſurface of the body, and varying in their lengths according to the thickneſs of the part of the body where they are placed. They are plentifully ſupplied with blood veſſels and nerves, particularly the latter; in ſo much that Mr Hunter obſerves, the magnitude and number of nerves beſtowed on theſe organs, in proportion to their ſize, will, on reflection, appear as extraordinary as the phaenomena they afford. But how far it may lead to an explanation of their operation, time and future diſcoveries alone can fully determine.

IX.

Pharmacopoeia Collegii Regii Medicorum Edinburgenſis, 8*vo*, Edinburgi.

THE college of phyſicians of Edinburgh firſt publiſhed their diſpenſatory in the year 1699; they afterwards gave new editions of it in 1722, 1735, 1744, 1756; and it is now preſented to the public for the ſixth time. At each publication many alterations were made; but at no time have more conſiderable changes taken place than at preſent. In giving an account of this work, it might, perhaps, be expected, that we ſhould point out the many changes that appear in it; but, as we preſume that the book, from its general utility, will be in the hands of moſt of our readers, we judge it leſs neceſſary to enter into any full detail.

The catalogue of the materia medica is much abridged, as thoſe ſubſtances only are inſerted which are employed in the preſent practice; and as thoſe ſubſtances are omitted, which are almoſt always to be found in every family. In other reſpects,

ſpects, however, the ſame catalogue is a little augmented, as ſeveral new medicines are introduced, and as ſeveral medicines, which formerly ſtood among the prepared and compounded, are now brought into the liſt of the materia medica, becauſe they are ſuch as cannot be conveniently prepared by the apothecary himſelf, and are more eaſily procured from others, who make a trade of ſuch articles.

The changes in the materia medica are ſtill leſs conſiderable than thoſe made in the prepared and compounded medicines. This part of the work is much abridged, by the omiſſion of almoſt all thoſe medicines which cannot be long kept in their prepared ſtate, and are to be prepared only when occaſion for their uſe immediately requires. They are thus properly left to be varied at the diſcretion of the preſcriber. Beſides theſe, many others are omitted, as they have come to be neglected in the preſent practice, and are therefore to be ſuppoſed leſs proper, efficacious, or elegant. Examples of this may be obſerved in the articles of ſimple and ſpirituous waters, vinegars, conſerves, powders, and ſeveral others. The melita are entirely omitted, as it would ſeem that, in the compoſition of medicines, the college think honey

has

has no advantage over ſugar, and that its condition is, at the ſame time, much more uncertain.

In moſt of the articles retained, the college have made conſiderable changes in reducing them to greater ſimplicity, in adjuſting the proportions more exactly, or in giving them a more elegant form. Their ſtudy of ſimplicity appears remarkable in the electuarium thebaicum, which they have given as a ſubſtitute, not only for the theriaca of the laſt edition, but alſo, as we ſuppoſe, for the theriaca, mithridate, philonium, and ſeveral other luxuriant compoſitions of the antients.

A few other of the conſiderable changes may be here pointed out. The *Tinctura martis* is directed to be prepared, not as formerly, from the filings, but from the ſquamae, or thoſe flakes which fall off in the hammering of hot iron. The advantage of this is, that the tincture does not then let fall the iron, as the others always did; whence it continues to be more uniformly of the ſame ſtrength.

The *Elixir proprietatis vitriolicum* and *Elixir vitrioli dulce* are now in their quality more exactly aſcertained, by the ſtate of the Spiritus vitrioli dulcis being more exactly fixed.

The *Tinctura ſennae compoſita* is rendered more ſimple; and, as we judge, more agreeable and efficacious, by jalap's being employed in place of rhubarb.

In preparing the extracts of jalap and Peruvian bark, the ſolutions, inſtead of being made, as formerly, both by infuſion in ſpirit and decoction in water, are now prepared by means of a ſpirituous menſtruum only.

The *Aqua raphani compoſita*, inſtead being diſtilled in the common ſtill, is now ordered to be made by diſtilling ſpirit of wine from the horſeradiſh root, in the heat of boiling water.; and adding afterwards to the diſtilled ſpirit an aromatic water.

The oil of amber is now ordered to be rectified by diſtillation, repeated four times, and every time in a clean retort, leaving behind about an eighth part of the oil which was put in.

The *Acidum nitri vinoſum*, or, as it was formerly named, the ſpiritus nitri dulcis, is now ordered in ſuch a manner, as to render the preparation more eaſy, and the medicine more perfect.

The ſame is to be obſerved with reſpect to the *Liquor aethereus vitriolicus*.

The *Spiritus ſalis ammoniaci vinoſus*, and *Spiritus volatilis aromaticus* are made by ſimple mixture, in place of the diſtillation commonly employed.

Inſtead of ordering the calcination of plants, for obtaining a fixed alkali, the college have now, under the title of *Sal lixivius purificatus*, given directions for obtaining a very pure alkali from the alkaline ſalts, prepared for the purpoſes of bleaching and other arts.

The *Tartarum ſolubile* and *regeneratum*, in following the London college, are more properly directed than they were before.

The *Mercurius corroſivus ruber*, or, as it is commonly called, the red precipitate, is directed, ſo as the flaky appearance, peculiar to that preparation, may be produced by a proper management of the calcination, and that without any other menſtruum having been employed in the ſolution than the nitrous acid.

The *Tartarum emeticum* is directed with greater exactneſs, for obtaining both a more effectual and a more uniform preparation.

In the compoſition of the ſeveral ſyrups, the ſugar is ordered by troy or medical weights, and the proportion of it is, therefore, more exactly adjuſted.

In the ointments and plaſters, nothing is more remarkable than the omiſſion of turpentine, which had formerly been ſo univerſally employed. In doing this the college ſeem to avoid ſometimes the acrimony, and ſometimes the uncertainty of conſiſtence which the turpentine might occaſion.

The college have not only made theſe, and many other changes in this edition, but have alſo introduced many new medicines. Among theſe are all the medicines which have of late been recommended by Profeſſor Storck of Vienna; beſides which, the following may be taken notice of: *Oleum expreſſum e ſemine ricini*. This ſtands in the catalogue of the materia medica, as ſuppoſed to be imported from abroad; but the college have found, that, when the ſeeds can be had in good condition, the oil expreſſed from them here is more to be depended upon, than that imported from abroad. *Tinctura abſinthii* is directed to be made by a double infuſion, a method which might probably be employed for other tinctures with advantage. *Extractum ſeminum cicutae* is alledged to be leſs uncertain in its preparation than the extract from the leaves.

Calx antimonii nitrata is, we believe, intended to anſwer the purpoſes of James's powder.

Pulvis e jalapa compoſitus is ordered, becauſe the triture of the jalap renders its operation more gentle, and alſo more powerful.

The following alſo, viz. Tinctura e kino, Tinctura meconii, Tinctura moſchi, Lixivium cauſticum, Magneſia uſta, Cuprum ammoniacum, Calx ſive flores zinci, Pulvis ſudorificus ſive Doveri, Pilulae coeruleae, Pilulae Plummeri, Trochiſci bechici cum opio, may all be conſidered as new medicines; but they hardly require our remarks.

Upon the whole, we believe that the choice, ſimplicity, accuracy, and ſkill which appear in this work will render it very agreeable to the public.

SECT. II.

Medical Obſervations.

I.

The Hiſtory of an uncommon Swelling of the Arm, which, after threatening a general Gangrene, terminated favourably. By Mr John Aikin, *Surgeon at Warrington.*

A Young man, aged about eighteen, tall and luſty, was ſeized, in ſpring 1772, with a kind of ſlow fever, which, after continuing three or four weeks, left him ſpontaneouſly. He thought himſelf well enough to go to work, and had appointed a perſon to call him early on Monday morning; when on the Sunday night he was attacked with violent rigor, ſucceeded by acute pain, in the left arm. In the morning it was much ſwelled and diſcoloured. The pain continued, and the ſwelling and diſcoloration increaſed; when on the next day I was ſent for.

I found his hand and fore arm greatly ſwelled, and, for a conſiderable ſpace, ſtained with a purpliſh red, in ſome places heightened almoſt to black. The tip of the right ear was affected in the ſame manner. In other reſpects he ſeemed perfectly well. His pulſe was tolerably ſtrong, and not at all accelerated; and his apetite continued pretty good. I immediately put him upon a courſe of Peruvian bark, joined with an aromatic; got him plentifully ſupplied with red port wine; and ordered a ſpirituous fomentation to the affected parts. The diſeaſe, however, for a while continued its progreſs. The red ſtains turned to black, and overſpread the whole hand and arm; and gangrenous veſications appeared on the ſurface. The other arm began to be affected; and ſpots appeared upon his cheeks and breaſt. The pain was ſtill ſo acute as to prevent his ſleeping. In other reſpects, however, he continued ſurprizingly well.

I perſiſted ſteadily in the treatment mentioned above; and, in another day, the diſeaſe ſeemed to be at a ſtand. I now looked for a ſeparation of the morbid from the ſound parts; ſince their appearance was ſuch, that I could not conceive of any better termination. But I was here agreeably diſappointed. The ſkin gradually recovered its native colour, exactly in the ſame manner as it had loſt it. The deep purpliſh black changed to crimſon. This became lighter and lighter, till at length theſe moſt formidable appearances, which ſeemed to threaten a general mortification, were entirely confined to the left hand. Here the diſeaſe made its laſt ſtand; and the ſkin broke about the roots of the fingers, which ſtill remained black and much ſwelled. The ſeparation of the morbid parts was tedious, but was at laſt effected, with no other loſs than that of the laſt phalanx of two fingers; the uſe of the reſt and of the hand remaining entire.

The patient's general health continued perfectly good; and he is now ſtrong and hearty. It is to be obſerved, that he was of the loweſt claſs of our working people, whoſe diet is generally very low and poor; conſiſting very much of potatoes and butter-milk. There was a ſcrophulous taint in the family; but I could not find that he had ever been affected with it.

II.

A Caſe of Melancholia cured, by Dr William Grant, *Phyſician in London.*

MR C------d was formerly a grocer in this city, and by great induſtry and attention acquired a competent fortune by the age of fifty, with which he retired into the country. There he propoſed to live in eaſe and affluence. But he did not conſider that a mind accuſtomed to exertions does not agree with idleneſs. Like ſtagnant water, it corrupts, and one muſt abate his diet in the ſame proportion he does his bodily labour.

He ſoon became bloated and big bellied; and found himſelf melancholy without cauſe; and, at laſt, when almoſt tired of life, he conſulted a phyſician, who ordered iſſues, bliſters, bark, ſteel, cold bathing, and many other medicines, without effect. At laſt he became delirious without fever; and never went to ſleep, from an imagination that the devil was continually tempting him to hang himſelf.

Upon examination, I found his tongue foul; his pulſe full, ſoft, and beating only 50 ſtrokes in a minute; his belly was big, hard, and coſtive; his countenance was dejected; his eyes prominent and yellow; his colour ſallow; and he was ſulky, and very obſtinate. He was averſe to taking any drug, becauſe, ſaid he, my body is very well, and drugs cannot hunt the devil from me, who now duns in my ear, "C-----d, hang yourſelf at once, "and get out of miſery."

In this ſituation he was put upon a diet of fruit, vegetables, and Rennet whey; and he took every morning, Man. opt. ℥ii. Tart. ſolub. ʒſs. in a pint of common emulſion. After three days a ſcruple of jalap was added, becauſe the emulſion was found inſufficient to keep his belly open. At the end of the third week, his pulſe got up to 78; and he began to purge. He was then put into a tepid bath for an hour every night; and the emulſion was continued, without the jalap. At the end of the ſixth week, his eyes were clear, his tongue pretty clean, and his belly ſoft, though ſtill bulky. He had alſo ſome ſleep; his pulſe was 80; and the devil was abſent for many hours in the day time.

I now propoſed to him to continue his diet and emulſion, and to go into the cold bath every morning; upon which he flew into ſuch a rage, that I ſoon perceived I had made leſs progreſs than I imagined: And accordingly, I had him removed from his brother's houſe, to a proper houſe, where the diſcipline ſoon made him calm and tractable. There he went on with the diet, cold bathing, and emulſion, till he was free from the devil. Upon this, the manna was gradually taken out of the emulſion, and the ſoluble tartar alone kept his belly regular; although ſometimes he found it neceſſary to take one of the Pil. rufi. at night, to aſſiſt the emulſion. At the end of the third month, he was allowed broth and boiled meat for dinner; and continued to mend ſlowly to the end of the fifth month, when he was removed to his own houſe in the country, contrary to my advice. They write me, however, that there he takes his ſoluble tartar, and either works in his own garden, or rides on horſeback every day; and is, upon the whole, pretty well. Had he remained here ſix or eight months longer, I think I would have anſwered for his cure.

III.

III.

The Hiſtory of a Caſe, in which a Quantity of Pus from an Abſceſs, near the Rectum, making its way into the Scrotum, gave the Appearance of a Hernia, by Mr Thomas Anderſon, *Surgeon in Leith, a Member of the College of Surgeons in Edinburgh.*

A Man about fifty years of age, of a middle ſtature, very muſcular, and rather corpulent, about the beginning of March 1770, was attacked with a cough, to which he paid little attention for two weeks: But, at the end of that time, he became affected with a ſevere pain in his ſide. He was then three times blooded, and enjoined to uſe a low diet. By the firſt of April, the pain in his ſide was much abated: But the cough was rather increaſed: and he complained of a pain in the anus, which, upon coughing, was very ſevere.

This pain continued increaſing till the fourth. It was then almoſt intolerable upon coughing, and very uneaſy when he was in an erect poſture. His pulſe, which hitherto had always been under a hundred in the minute, now roſe to 120. In this ſituation, he was blooded, had an emollient injection, and a gentle laxative by the mouth.

On the 5th, 6th, and 7th, the pain in the anus continued. He was blooded each of theſe days; and at each bleeding loſt about 16 ounces of blood. His belly was at the ſame time kept open by laxatives; and emollient injections were thrown up twice a day.

On the morning of the eighth, he complained of a hardneſs at the anus, which extended from thence about half way to the ſcrotum, on the left ſide of the ſeam in perinaeo, and felt to be about the thickneſs of a finger. The ſkin was not diſcoloured; but upon its being touched, a moſt exquiſite pain was excited. He was again blooded, an injection thrown up, and an emollient poultice applied to the part. His complaints, however, were not mitigated; and about five in the evening he was ſeized with a fit of general convulſions, upon coming out of which, he complained of his ſcrotum being much ſwelled. When it was examined, the left ſide was found greatly diſtended, from the rings of the muſcle to the bottom of the ſcrotum. This tumour was of an uneven appearance; but he complained of ſo much pain from the ſmalleſt preſſure, that it was difficult to examine it. From its appearance, however, and from its taking place almoſt inſtantaneouſly, it was concluded to be a portion of the abdominal viſcera. But no reduction could be attempted. He now found himſelf much relieved from the pain of which he had before complained, and his ſcrotum was only uneaſy, if it was preſſed or not ſuſpended. At this time he got a laxative, which procured him three ſtools before next morning.

On the morning of the 10th his pulſe was 110, and ſmall; the heat of his body was natural; and he found himſelf eaſy, except upon motion, or any preſſure to the ſcrotum, which ſtill gave exquiſite pain. About five in the evening, he was much oppreſſed; his pulſe was 120, and ſmaller than before; he was now and then affected with hiccough; and in the middle of the tumour the ſkin was dry, and gave a crackling noiſe, upon preſſure. In this ſituation he was viſited by Dr. Gregory, Mr W. Gibſon, Mr Thomas Wood, and Mr J. Gibſon who were all of opinion that the only chance for recovery was, from the operation, for the bubonocele, being immediately performed. It was at the ſame time much doubt-

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ed, whether it was not even already too late. As he would not, however, then ſubmit to it, warm applications were put to his feet; and warm port-wine given him frequently.

Next morning about 10 o'clock his pulſe was 120, but fuller; the ſingultus was gone; he had got ſome ſleep during the night, and found himſelf eaſier. But the tumour was ſtill as painful as ever upon preſſure; the dryneſs of the ſkin in the middle of it was larger, and the crackling, upon preſſure, more diſtinct. The operation was now reſolved upon.

When the inciſion was carried through that part of the ſkin which crackled upon preſſure, a quantity of air was diſcharged, which ſeemed to have been contained between the ſkin and the vaginal coat. Immediately upon opening the vaginal coat, there flowed out a quantity of thick well digeſted pus; and, upon the opening being enlarged, upwards of ſixteen ounces of it were diſcharged. It was now found, that no part of the viſcera had paſſed the ring of the muſcles, and that the tumour was entirely owing to this collection of pus in the tunica vaginalis. After this he was perfectly free from pain at the anus;

his other ſymptoms gradually diſappeared; and the wound was cicatrized in five weeks.

IV.

An Account of the Paracenteſis being performed in the Thorax, for the Cure of an Emphyſema. By Mr George Kellie, *Surgeon in Leith.*

A Man about 57 years of age, who had for ſeveral years laboured under a cough, attended with difficulty of breathing, on the morning of the 1ſt of April 1769, was ſuddenly awakened with a ſevere fit of coughing, violent pain in his ſide, and great difficulty in breathing. The pain was fixed to one place, between the 7th and 8th ribs. It was much increaſed by his cough, which, at the ſame time, became more frequent. A ſurgeon in the neighbourhood was immediately ſent for, who blooded him, and gave him a pectoral decoction. As he was not relieved, the bleeding was repeated in the forenoon, and a bliſter applied to the place in which he complained of the fixed pain. In the evening of that day, I was deſired to viſit him, when I found him affected with the ſymptoms mentioned above. His pulſe beat between ſeventy and eighty ſtrokes in a minute; and the blood which had been laſt taken from him was not in the leaſt ſizy. I ordered him a ſolution of Gum. Ammoniac, and a purging clyſter, as he had been coſtive for ſome days.

On the ſecond, he ſtill continued as before, nothing relieved by the bleeding, bliſtering, or glyſter. His pulſe was ſoft and not quicker than natural. In the night he accidentally obſerved his ſcrotum much ſwelled, but without pain. Next morning, upon a careful examination, the whole right ſide was found covered with an emphyſematous ſwelling, which yielded to the touch, but kept no impreſſion. Wherever it was preſſed, it gave a crackling noiſe.

When I ſaw him on the fourth, the ſwelling had increaſed over his whole body. It extended alſo to his arms, hands, and neck, as high as the angle of the lower jaw. I directed that his whole body ſhould be rubbed with flannel cloths and camphorated oil; and, as he was ſtill coſtive, I ordered him a bolus of jallap and calomel.

On the 5th, the bolus operated well, but the ſwelling ſtill continued, and was attended with great oppreſſion in his breathing. The ſcrotum appeared to be more flaccid, but the penis itſelf was much enlarged. Upon mentioning this caſe to Dr Monro, his advice was, that the ſide ſhould be accurately examined with a view of diſcovering at what part the air got into the cellular membrane. If the place could be diſcovered, he propoſed, that an inciſion ſhould there be made thro' the ſkin; and if that afforded no relief, or did not evacuate the air, that a perforation ſhould be made into the thorax by means of a trocar.

His ſide was carefully examined on the 6th; but it was impoſſible to diſcover from what part the air got into the cellular membrane. The pain of which he complained had ſhifted lower down, and farther back than it was at firſt. As his difficulty of breathing, however, was much increaſed, Dr Monro propoſed that an inciſion ſhould be made at the part where he was firſt affected with the pain. This was accordingly done, about the middle of the thorax, between the 7th and 8th ribs. His breathing, however, was not in any degree relieved, nor was any air diſcharged, unleſs upon rubbing towards the opening. A perforation was therefore made into the thorax, obliquely, between the ribs. Upon withdrawing the perforator, ſuch a blaſt of air iſſued through the canula, as to blow out a lighted candle, three or four times. Immediately upon this, from being before in the moſt miſerable ſituation, he became eaſy, and almoſt totally free from his oppreſſion. His pulſe, which, before the operation, beat above an hundred ſtrokes in the minute, ſoon fell to ninety. A cork was put into the canula, which was left in the opening, and tied with a ſtring round his body. On a violent fit of coughing, however, with which he was ſeized in the night, it came out; but it was again introduced next morning.

As his difficulty of breathing was very inconſiderable, after the firſt perforation, the canula was withdrawn altogether on the afternoon of the 7th. At that time ſeveral inciſions were made into the cellular membrane, in different parts of his body. Through theſe the air puffed out, when a preſſure was made towards them, but not otherwiſe.

From the 8th to the 14th, his breathing continued eaſy, and the ſwelling gradually abated. He was, however, greatly diſtreſſed with his cough, particularly when in a recumbent poſture, which obliged him to ſleep in a chair for ſome nights. On the 15th, the frequency of the cough excited ſuch a pain in his ſide, as to render bleeding neceſſary. His blood appeared very ſizy; and next day the pain in his ſide was much abated. He then got an infuſion of ſenna with tamarinds, by way of purgative, which operated well.

On the 17th he was much eaſier, although he durſt not lie in bed during the night. He walked through the houſe; but complained, at times, of a pain in his ſide, at the place where the operation was performed, He imagined alſo, that there was ſometimes a riſing of the ſkin there in a lump: But this I could not perceive, although I held my hand upon it for a conſiderable time, and made him put himſelf in all the different poſitions which he thought occaſioned the ſwelling. Next night he ventured to go to bed, and ſlept eaſily for ſome hours. From this time he continued to recover; and, by the 30th, excepting weakneſs, he was free from all complaints. His cough was even eaſier than before he was attacked on the 1ſt of April; and he eat and ſlept as well as he had done, at any time, for thirty years before.

From this time, to the beginning of March 1770, he enjoyed a good ſtate of health. But he was then attacked with cough, pain of his breaſt, and difficulty of breathing, to which a hectic fever ſoon ſupervened. Notwithſtanding every thing that could be done for him, theſe ſymptoms, particularly the hectic fever, daily gained ground; and he died on the 16th of April.

I obtained permiſſion to examine his body after death. Upon opening the thorax, I found the lungs in a very putrid diſeaſed ſtate, with ſome tubercles on the external ſurface of the right lobe. A great portion of them firmly adhered to that part of the pleura which lines the ribs; particularly at the place where the perforation had formerly been made into the cavity of the thorax. By making an inciſion into the right lobe, I diſcovered an abſceſs containing about four ounces of purulent matter, which emitted a very diſagreeable ſmell. All the other viſcera appeared to be in a ſound ſtate.

SECT III.

Medical News.

IN purſuance of our plan of giving accounts of learned men, we ſhall here preſent our readers with ſome anecdotes of the late Dr Gilchriſt, whoſe death we mentioned in our laſt number.

Dr Gilchriſt was born at Dumfries, in Scotland, in the year 1707. He began the ſtudy of medicine at Edinburgh, which he afterwards proſecuted at London and Paris. He obtained the degree of Dr of medicine from the univerſity of Rheims; and, in the year 1732, he returned to the place of his nativity, where he afterwards conſtantly reſided, and continued the practice of medicine till his death.

It may, with juſtice, be ſaid, that few phyſicians of the preſent century have exerciſed their profeſſion in a manner more reſpectable or ſucceſsful than Dr Gilchriſt; and few have contributed more to the improvement of the healing art. Having been engaged in buſineſs at an early period of life, his attention was wholely devoted to obſervation. Endowed, by nature, with a judgement acute and ſolid, with a genius active and inventive, he ſoon diſtinguiſhed himſelf by departing, in various important particulars, from eſtabliſhed, but unſucceſsful modes of practice. Several of the improvements which he introduced have procured him great and deſerved reputation, both at home and abroad.

His practice, in ordinary caſes, was allowed to be judicious, and placed him high in the confidence and eſteem of the inhabitants in that part of the country where he lived. But his uſefulneſs was not confined to his own neighbourhood. On many occaſions he was conſulted by letter, even from the moſt diſtant parts of the country.

In different collections are to be found ſeveral of his performances, which prove that he had ſomething new and uſeful to offer upon every ſubject to which he applied himſelf. But thoſe writings which have done him the greateſt honour, are two long diſſertations on nervous fevers, in the medical eſſays and obſervations, publiſhed by a ſociety in Edinburgh, and a treatiſe on the uſe of ſea voyages in medicine, which firſt appeared in the year 1757, and was afterwards reprinted, with large additions, in 1771.

If it ſhould be remarked, that the eſſays on nervous fever abound too much with the theory of the ſchools, which prevailed at the time they were written: It may likewiſe be obſerved, that they contain many of the moſt prevailing opinions of the preſent times. But, whatever judgement may be formed of theſe particulars, it will be allowed on all hands, that, by means of the full and accurate relation which they contain, the attention of phyſicians was firſt turned to a ſpecies of fever which is now found univerſally to prevail in this country. It will further be granted, that the liberal uſe of wine, which Dr Gilchriſt was the firſt among the moderns to recommend, has ſince been adopted in theſe fevers, by the moſt judicious phyſicians of the preſent age, and has probably contributed not a little to the ſucceſs of their practice.

In his treatiſe on Sea-voyages, although we find him frequently acknowledging his obligations to the antients, yet the work has in many reſpects been conſidered as an original one. It points out, in a manner ſo clear, and ſo much on the ſure footing of experience, the utility of ſea-voyages in various diſtempers, and particularly in conſumptions, that there is now a proſpect of our being able to employ a remedy in this intractable diſeaſe much more efficacious than any hitherto in uſe.

In the ſecond edition of this work, the author relates his own farther experience and obſervation, which ſerves to confirm what he had before advanced. To theſe facts are ſubjoined the teſtimonies of ſeveral eminent phyſicians, in different parts of the world, to the efficacy of the remedy. In this edition alſo are contained many valuable practical obſervations on pulmonary diſorders in general, and on the method of diſtinguiſhing them, in ſo much, that it may juſtly be eſteemed one of the beſt accounts yet extant of theſe dangerous diſorders, and of the ſucceſs attending the different methods of treating them.

In an appendix to this work, we have an account of the ſucceſs which the author experienced from warm bathing in fevers. This practice, which had not formerly been attended to, is there ſhown to be, in many caſes, highly beneficial. Since that time, it has, in one ſhape or other, been much employed, with particular advantage.

Such is the ſhort account we offer of Dr Gilchriſt as a phyſician, and as an author. With regard to his character as a man, much, we believe, might be ſaid: But, to enter upon this ſubject is what our readers in general would not expect, and what thoſe who knew him would reckon unneceſſary.

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Mr John Innes, who diſſects for Dr Monro in Edinburgh, has favoured us with the following account of a man, whoſe organs of generation and urine were of a preternatural conſtruction. This man, at the time of Mr Innes's examination, was thirty-one years of age. He was born of ſound and healthy parents. He had, from his birth, immediately above the os pubis, a fungous excreſence, of a red colour, reſembling granulation from a wound. This excreſcence is about the bigneſs of a middle ſized apple, and in each ſide of it there is an opening above the groin, through which a probe of ſix inches long, and of the ſize of a crow's quill, can be introduced. It muſt be of a curved ſhape; he adapts it himſelf to the paſſages which ſeem to lead backwards and outwards. From the introduction of a probe in this manner, he complains of a ſlight pain about his loins. He obſerves that his pain is often in the ſide oppoſite to that at which the probe is introduced.

Through the two openings that have been mentioned, the urine flows conſtantly, unleſs there happen to be any accidental ſtoppage on either ſide. Such a ſtoppage creates great uneaſineſs, and he removes it by the introduction of a blunt probe; the urine then flows as before.

He has an imperfect penis. As far as it can be ſeen, it has much the ſame appearance as if it had been cut through the middle longitudinally, with the ſound ſide upwards. It has not the leaſt veſtige of any perforation or urethra. The crura penis terminating in the ſplit corpora cavernoſa can be diſtinctly felt; and there is a very ſmall ſwelling in the perinaeum, where the bulb of the urethra ſhould be.

He has two ſmall teſticles below the rings of the external oblique muſcles, with diſtinct vaſa deferentia, which can be felt by the finger in the common manner. He has a ſcrotum which is empty and contracted. He has not the leaſt veſtige of a navel; and very little beard, in proportion to his age.

Though the penis be imperfect, yet when the glans is titulated with a warm hand, there is an evident ſwelling. He declares, however, that he has neither inclination for venery nor emiſſion of ſemen. But, as he has teſticles and diſtinct vaſa deferentia, it is probable that they terminate in the rectum, and that the ſemen is diſcharged with the foeces.

The fungous excreſcence ſeems to have been the original paſſage for the umbilical veſſels; and its low ſituation is probably owing to the want of a veſica urinaria, by which the umbilical arteries are ſupported and directed to the umbilicus in a natural ſtate. That the veſica urinaria is wanting, is proved by the conſtant and involuntary flow of urine, by the want of an urethra, and by the introduction of a probe at the openings from whence the urine is diſcharged, which are evidently the orifices or terminations of the ureters. The excreſcence would probably have ſkined over, had it not been for the conſtant diſtillation of urine excoriating the parts.

His ſmall quantity of beard may probably be owing to the ſmall ſize of his teſticles, but chiefly to the want of veſiculae ſeminales. By this means, there can be little ſtagnation of ſemen, and conſequently little abſorption of it, to which it is probable that the growth of the beard is principally to be attributed.

As he goes about ſhewing himſelf for money, he endeavours to perſuade ignorant people that he has a regular menſtruation. But he has not the leaſt mark of female about him; and, if blood at any time appears, it probably comes from the excoriated parts, as there is no perforation externally but for the ureters and rectum.

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Extract of a Letter from Dr Percival at Mancheſter, to Dr Duncan at Edinburgh.

" An eminent philoſopher informed me, ſome time ago, that the ſolvent power of air on water is a diſcovery of a much older date than is commonly ſuppoſed; and that it was well known to Dr Edmund Halley about the beginning of the preſent century. The following quotation, which I have extracted from the ſecond volume of Lowthorp's abridgement of the philoſophical tranſactions, will ſufficiently evince the truth of this aſſertion.

“ Vapours being raiſed by warmth, let us, for a firſt ſuppoſition, put, that the whole ſurface of the whole globe were all water very deep, or rather that the whole body of the earth were water, and that the ſun had his diurnal courſe about it; I take it, that it would follow, that the air of itſelf would imbibe a certain quantity of aqueous vapours, and retain them like ſalts diſſolved in water; that the ſun warming the air, and drawing a more plentiful vapour from the water in the daytime, the air would ſuſtain a greater proportion of vapours, as warm water will hold more diſſolved ſalts, which, upon the abſence of the ſun, in the nights, would be all again diſcharged in dews, analogous to the precipitation of ſalts in the cooling of liquors.

Vid. *Lowthorp's abridg. of Phil. Tran. vol. II. p.* 127.

“ Dr Prieſtley continues to proſecute his experiments on various kinds of air, and has diſcovered, by means of a burning lens, that ſeveral metals, without any acid, yield inflammable air; and that fixed air is diſcharged from alum. The air contained in the bladders of fiſhes, he finds to be thoroughly noxious; a fact which has ſuggeſted to him a very intereſting train of experiments."

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An aſylum or lock-hoſpital, for the reception of female patients labouring under the venereal diſeaſe, has been lately eſtabliſhed at Mancheſter, and we wiſh ſo laudable an example may be followed in other places. To ſhew the utility of ſuch inſtitutions, and to obviate the objections which have been made to them, we ſhall inſert the following advertiſement, written by Dr Percival, and prefixed to the report of the hoſpital above mentioned.

ADVERTISEMENT.

Whoever reflects on the variety of diſeaſes to which the human body is incident, will find, with concern, that a conſiderable part of them are derived from immoderate paſſions, and vitious indulgence. Sloth, intemperance, and irregular deſires are the great ſources of evil, which contract the duration, and imbitter the enjoyment of life.

But humanity, while ſhe mourns over the vices of mankind, incites us to alleviate the miſeries which flow from them. The private hand of charity is never ſhut, when ſickneſs, complicated with poverty, preſents itſelf; and hoſpitals are eſtabliſhed in every part of the kingdom for the reception of the wretched, whether innocent or guilty.

A new inſtitution, founded on theſe benevolent principles, conſonant to ſound policy, and favourable to the intereſts of virtue, now claims the attention and encouragement of the public. The object of it is to provide relief for a loathſome and painful diſtemper, often fatal when neglected; but which admits of an almoſt certain cure, when the patient is under confinement, and ſubject to proper regulations. This aſylum, it may reaſonably be hoped, will with-draw from their haunts thoſe wretches who ſeduce unwary youth, contaminate them with diſeaſe, ſpread wide infection, and entail ſhame and miſery on a feeble poſterity. To the penitent ſufferers, it will afford a pleaſing refuge; will give opportunity to confirm their wavering reſolutions; and will reſtore them to health, to peace, and uſefulneſs. Happy will the governors be, in diſmiſſing ſuch with this injunction: *Go, and ſin no more.*

Propoſals have been circulated for publiſhing, by ſubſcription, at London, An Illuſtration of the Materia Medica, by elegant engravings, coloured after nature, of the more rare articles uſed in medicine, as well exotic as indigenous. It is expected that this work will be compleated in fifty numbers, each containing two folio plates and one ſheet of letter-preſs, price 4 s.

Dr Hunter's plates of the gravid uterus are now advertiſed to be publiſhed in November next.

At a meeting of the royal college of phyſicians in Edinburgh, on the ſecond of Auguſt 1774, Dr Nathan Spens, and Dr Robert Hunter, both of Edinburgh, were elected fellows of the college.

On the fourteenth of January 1774, Lucas Pepys, M. B. Phyſician to the Middleſex's hoſpital, and John Burgeſs, M. B. phyſician to St George's hoſpital, were admitted to the degree of doctor of medicine; and, on the 9th of July 1774, Charles Cameron, A. M. was admitted to the degree of batchelor of medicine, by the univerſity of Oxford.

On the ſecond of October 1773, Chriſtianus Ludovicus Willich, eminent for his knowledge in natural hiſtory and botany, died at Gottingen; and, on the fourth of April 1774, Dr Oliver Goldſmith, whoſe literary character is well known to moſt of our readers, died at London.

SECT. IV.

Liſt of New Books.

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PHiloſophical tranſactions, giving ſome account of the preſent undertakings, ſtudies, and labours of the ingenious, in many conſiderable parts of the world. Vol. LXIV. part I. 4to, London.

An Eſſay on the moſt effectual means of preſerving the health of ſeamen in the royal navy; and a diſſertation on fevers and infection: Together with obſervations on the jail-diſtemper, and the proper methods of preventing and ſtopping its infection. By James Lind, M. D. 8vo, London.

Obſervations on Dr Williams's treatiſe upon the gout. By Mr Daniel Smith, author of a letter to Dr Cadogan, with remarks on the ſame ſubject, 8vo, London.

Horti Malabarici pars prima, de varii generis arboribus et fructicibus ſiliquoſis; Latinis, Malabaricis, Arabicis, Brachmanum characteribus nominibuſque expreſſis, adjecta florum, fructuum, ſeminumque vera delineatione, colorum viriumque accurata deſcriptione, adornata per nobiliſſimum ac generoſiſſimum D. D. Henricum van Rhede Tot. Draakeſtein, Toparcham in Mydrecht, quondam Malabarici regni gubernatorem, ſupremi conſeſſus apud Indos Belgas ſenatorem extraordinarium, nunc vero equeſtris ordinis illuſtribus ac praepotentibus provinciae Ultrajectinae proceribus adſcriptum, et Theodorum Sanſon ab Almeloveen M. D. Notis auxit et commentariis illuſtravit Joannes Commelinus. Nunc primum claſſium, generum, et ſpecierum characteres Linnaeanas, ſynonyma auctorum atque obſervationes addidit, et indice Linnaeano adauxit, Joannes Hill, M. D. academiae imperialis naturae curioſorum Dioſcorides quartus, 4to, London.

Obſervations and experiments on the poiſon of copper. By William Falconer, M. D. F. R. S. 12mo, London.

An oration delivered before the American philoſophical ſociety, held at Philadelphia, February 4th 1774; containing an inquiry into the natural

hiſtory of medicine among the Indians in North-America; with a comparative view of their diſeaſes and remedies with thoſe of civilized nations. With an appendix, containing proofs and illuſtrations.

De la connoiſſance et du traitement des maladies, principalement des aigues; ouvrage fondé ſur l'obſervation. Traduit du Latin de M. Eller, premier medecin du Roi de Pruſſe, par M. J. Agathange le Roi, M. D. medecin de M. le Comte de Provence, &c. 12mo, Paris.

Obſervations et experiences ſur le charbon malin, avec un methode aſſurée de le guerir. Par M. Fournier, M. D. de la faculté de Montpellier, medecin penſionné de la ville de Dijon, et medecin des etats-generaux du duché de Bourgogne, 8vo, Dijon.

Tableau de l'analyſe chymique, ou procédés du cours de chymie de M. Rouelle, apothecaire de S. A. S. Monſeigneur le Duc d' Orleans, demonſtrateur de chymie au jardin royal des plantes de la societé des arts de Londres, et de l'académie électorale d'Erfort, 8vo, Paris.

Memoires pour ſervir à l'hiſtoire des inſectes. Par M. Reaumur, 6 vols, 4to. avec 267 figures;

nouvelle edition, propoſés par ſouſcription, Paris.

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